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**United States**  
**COURT OF APPEALS**  
**for the Ninth Circuit**

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ALBERT A. ARVIDSON, et al., *Appellants*,

vs.

REYNOLDS METALS COMPANY, a corporation, *Appellee*.

W. J. WHITEAKER, et al., *Appellants*,

vs.

REYNOLDS METALS COMPANY, a corporation, *Appellee*.

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**APPELLANTS' BRIEF**

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*Appeals from Final Judgments of the District Court for the  
Western District of Washington, Southern Division.*

HON. GEORGE H. BOLDT, Judge.

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**JURISDICTION**

Jurisdiction of the actions in the district court properly attached because the complaints (I-2, 118)\* alleged

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\*Figures in parentheses in this brief denote corresponding volume and page references in the nine volume Transcript of Record.

ed diversity of citizenship and amount in controversy under 28 U.S.C.A. §1332.

Final judgments in the cases were entered December 30, 1954 (I-103, 209), and appeals were filed January 28, 1955 (I-105, 211). The appeals having been taken in time (I-106, 211) under Rule 73(a), F.R.C.P., this Court has jurisdiction of the appeals under 28 U.S.C.A. §1291. By order of this Court dated February 24, 1955, the cases were consolidated for appeal purposes.

### STATEMENT OF THE CASES

In December, 1950 (I-84), the *Arvidson* appellants filed their complaint in the Western District of Washington, Southern Division. The *Whiteaker* appellants filed theirs in that Court in November, 1952 (I-84). The actions were tried together. The *Arvidson* action was concerned with appellee's Troutdale, Oregon aluminum reduction plant and the *Whiteaker* action was concerned with appellee's Longview, Washington aluminum reduction plant. Paragraph V of each complaint (I-4, 120) alleged that appellee deposited particulates (i.e., solids) on appellants' real properties all located in Washington. By reason of such deposit, appellants claimed damage to their real properties and to the personal properties located thereon.

Because of Paragraph V, we think appellants in both cases pleaded (and later proved) a trespass as distinguished from trespass on the case as to their real properties. By reason of such pleading and because of what we think is the applicable subdivision of the Washington

statute of limitations, we believe appellants were entitled to prove damages to their real properties starting at a date three years prior to filing their complaints. Since the statute referred to deals with trespass and the limiting period therein is three years, we think it applies to these cases.

As to their personal properties, we think appellants were also entitled to the benefit of the Washington three year statute of limitations. This is so, we believe, not because appellants pleaded a trespass as to personalty, but because of a distinct personalty subdivision of the three year Washington limitations statute specifically covering " . . . taking, detaining or injuring personal property . . . " whatever may have been the theory of the complaints as to personalty.

Whether appellants pleaded or proved a trespass as to their real properties was a legal question which was ruled on by the trial court in a number of ways both before and after the trial. What limitations period was involved was one of those rulings. The trial court also considered and ruled before and after trial whether appellants were entitled to the Washington three year statute as to personalty. We have delayed detailed consideration of these rulings for the body of this brief because analysis here would unduly prolong this Statement. It seems enough to say here that the orders and findings on limitations and on trespass adverse to appellants present the principal questions involved on these appeals.

At the close of this Statement we shall summarize the questions involved and the manner in which they

arose. Rule 18(2)(c), this Court. A brief digression at this point, however, to discuss two important "factual" bases for the trial court's written decision and ultimate finding of non-liability is believed required to assist this Court in understanding the issues. (The complete text of the decision is reproduced in the Transcript beginning at I-84; it is reported in 125 F. Supp. 481). One of these "factual" bases has no support in fact at all; and the other has very little.

The "factual" base which has no support in fact at all is the trial court's reliance upon what it thought were the results in similar cases in the Pacific Northwest. The Court said in its decision:

"In a number of cases previously heard in this and other courts in this area awards for fluoride damage resulting from operation of the Troutdale and Longview plants have been allowed, but every such case involved periods when little, if any, fume control measures were taken and before the installation of the later of the fume control improvements referred to." (I-87)

According to this quotation, the unique feature of the present cases is that for the first time a court in the Pacific Northwest was confronted with fluoride claims involving periods of time after installation of the "later of the fume control improvements" at the Troutdale and Longview plants. As the trial court (I-86) noted, the "later improvements" at Troutdale were completed in November 1950 and at Longview in 1949. The exact dates are Troutdale, November 3, 1950 (I-25) and Longview, May 14, 1949 (I-151).

The fact is that of the four flouride cases tried in Pacific Northwest federal courts, one involved operations of the Troutdale plant *after* November 3, 1950 and one involved operations of the Longview plant *after* May 14, 1949. In both cases liability was found and damages awarded. One of the remaining two cases involved Aluminum Company of America and the other involved the Troutdale plant before November 3, 1950.

The Troutdale case involving a claim for damages after November 3, 1950, was *Paul Martin and Verla Martin v. Reynolds Metals Company*, Civil No. 6151 (D. Ore.). Trial of that case began December 8, 1952, before the then Chief Judge of the Oregon District, James Alger Fee, sitting without a jury. Judge Fee signed his findings and conclusions as Circuit Judge December 18, 1954. Additional finding No. III read as follows:

"III. The amount of damage sustained by the plaintiffs with respect to their lands aforesaid and cattle operations thereon for the period from the commencement of operation of the Troutdale plant on September 23, 1946, by the defendant, up to the date of the filing of the complaint in this action on the 22nd day of August, 1951, is the sum of \$47,-135.00."

Additional finding No. V read as follows:

"V. During May of the year 1951, the plaintiffs placed upon their said lands a test herd of healthy young cows, calves and bulls, approximately 30 in number, and prior to and at the time of the trial of this action some of the animals in said test herd unmistakably showed evidence of having ingested more than a normal amount of flourine, and two of the animals slaughtered the day of the trial commenced unmistakably showed flourosis and had

toxic quantities of flourine in their bones and tissues."

As just noted, the "later improvements" at Troutdale were completed November 3, 1950. Obviously the above two findings, particularly Finding No. V, can mean only that defendant in the *Martin* case was causing damage in 1951. In fact, Finding No. V goes further and means defendant was causing damage in 1952 up to the time of trial December 8, 1952.

The Longview case involving a claim for damages after May 14, 1949, is *John M. Thorup and Kate W. Thorup v. Reynolds Metals Company*, Civil No. 5884 (D. Ore.) also tried before Judge Fee without a jury beginning August 25, 1952. Finding No. XIX signed by Judge Fee in that case on January 9, 1953, read as follows:

"XIX. Fluorides emanating from defendant's aluminum reduction plant in the period January 5, 1945 to August 25, 1952, did settle upon plaintiffs' real property in amounts sufficient to cause and did cause injury and damage to the dairy animals which grazed on the vegetation growing there. Said fluorides caused damage to plaintiffs in the amount of \$14,241.26."

Finding XIX thus covers a damage period over three years after May 14, 1949.

To summarize, the *Martin* and *Thorup* findings mean defendant (appellee here) was causing damage at both plants not only after the "later improvements" at each, but late in the year 1952. Trial of the cases at bar began November 4, 1953 (I-102-A, 208-A).

We regret that Judge Fee's opinions in the *Martin* and *Thorup* cases are not reported. We also regret having to quote from the findings in those cases since they are not in the Record on Appeal in the cases at bar. However, they were not before the trial court either, and we feel we must correct the impression created by the trial court's decision that the cases at bar presented for the first time a claim of fluoride damage after completion of the "later improvements" at the Troutdale and Longview plants. In this connection, appellee's counsel in the cases at bar were also counsel in the *Martin* and *Thorup* cases.

The "factual" basis for the trial court's decision and ultimate finding of non-liability which has little support in fact is the following extract from the Court's decision:

" \* \* \* Almost every plaintiff on cross examination was badly discredited in various respects but primarily by (a) testimony at the trial directly contrary to testimony given by pretrial deposition; (b) reluctant admission of conditions and causes unrelated to flourine accounting in many instances for the damage or condition complained of; (c) admission of substantial increases in income from dairy products during the years complained of as contrasted to earlier periods when flouride effluence was as much or greater; and (d) the testimony of some plaintiffs in the Arvidson case that no injurious effects or damage were observed from 1942 to 1945 during the period Alcoa was operating the Troutdale plant without the fume control improvements installed by defendant when flouride effluence must have been very much greater than during the period complained of. It would appear from the testimony last referred to that the cattle injury and loss of milk production complained of were either

not due in any material degree to flourine or were the result of an accumulation of flourine deposits in forage over a period including several years prior to the limitation period. In this connection it should be noted that the experts produced by plaintiffs testified that flourine deposits on forage dissapate [sic] rapidly and do not accumulate over any great length of time particularly in areas subject to frequent rainfall." (I-89-90)

The generalizations involved in (a), (b) and (c) of the above extract are obviously vital on the issue of credibility, a matter of course, peculiarly within the province of the trial court. Despite the generalizations, the actual facts with respect to the *Whiteaker* case are as to: (a) all four plaintiffs testified and their depositions were not even used at the trial; (b) no plaintiff admitted anything except the usual incidence of disease (except Mr. Josephson who readily stated he had a Bangs disease problem in 1952 (VI-1427), and each claimed fluorides as the effective cause of his troubles; and (c) no plaintiff admitted receiving more income in years complained of as compared with earlier periods (see Sec. III of this brief conclusively showing that milk production decreased as fluorides increased and vice versa). In short, the generalizations involved in (a), (b) and (c) of the above extract do not apply to the *Whiteaker* case at all, a fact not noted in the extract itself. As the extract shows, (d) does not apply to the *Whiteaker* case.

As to the *Arvidson* case, all thirteen plaintiffs testified at the trial. Concerning (a) the cross-examiner did not use one plaintiff's deposition while examining him (Albert Arvidson); depositions were used in cross-ex-

amining six plaintiffs (Depoe, Seekins, Ford, Robson, Ray Arvidson and Norelius), but nothing was said in any way contradicting the deposition testimony; and while four plaintiffs, Brandt, Stauffer, Isbister, Baker) were contradicted at the trial on the basis of what they said on their depositions, these contradictions were on very minor matters indeed. Thus Mr. Baker in the two years between the time he was testifying and the time his deposition was taken, changed his mind as to whether he was claiming that his land had been depreciated (IV-680); Mr. Brandt in two years forgot he testified on his deposition he had sold four animals for lack of hay (V-946); Mr. Isbister was uncertain after a two year delay whether his 1950 production was normal (IV-493) and whether his cow Pansy was a normal producer in 1951 (IV-495); and Mr. Stauffer said at the trial that he had misunderstood a deposition question asked two years earlier when he answered it by saying that an annual cull of seven or eight cows in a herd of twenty-five would be normal; he thought the deposition question was intended to find out what he was in fact culling (IV-640).

Concerning (b) in *Arvidson*, plaintiffs, as in the *Whiteaker* case, readily admitted the usual incidence of disease in the years complained of and claimed fluorides as the effective cause of their troubles.

Concerning (c) in *Arvidson*, three plaintiffs only admitted receiving more income in years complained of as compared with earlier years. Mr. Hester was one, but

he explained on cross-examination that the increase was due to his having fed hay not raised on his farm:

“Q. Isn’t it a fair statement that your milk production while you were at Washougal gradually increased from the standpoint of total pounds of butter fat produced?

A. Yes, after I started feeding straight Golden-dale alfalfa it did increase. In fact, it always did in the winter when I started feeding alfalfa hay, it would increase.” (IV-392)

Mr. Robson also received more income, but solely because, as he testified (V-902-3), he started selling higher-priced Grade A milk for the first time during the years complained of. While Mr. Ford thought his 1948 income was higher than his 1949 income, he was slightly mistaken. The 1948 figure was \$11,526.90 and the 1949 figure was \$13,160.32 (IV-743)

The extract’s (d) applies only to *Arvidson*. We agree (last sentence of (d)) that experts testified that fluorine does not accumulate, but what the Court overlooked as to the rest of (d) is that, while Alcoa operated the Troutdale plant for three years, appellee had been operating (except for very brief shut downs) continuously for over seven years when the cases at bar came to trial. Moreover, there was a year’s respite from whatever had been the effect of Alcoa’s operation because for a year after Alcoa’s operation ceased, the plant did not operate at all (I-20). After that year, appellee started operating. It may well be that fluorine does not accumulate, but it seems obvious that any poison would be more effective if continuously consumed for seven years than it would if consumed for only three years.

This brings us to the questions of fact and law involved before this Court and the manner in which they arose. They are: (1) On the evidence, was appellee continuously and repeatedly depositing solids on appellants' properties within the two year periods of limitations held applicable and up to the time of trial? This question arises by virtue of Finding XXVI, *Arvidson* (I-102-C) and Finding XVI, *Whiteaker* (I-203-B). The question is referred to in our Statement of Points II (I-223. (2) Were appellants' cattle injured substantially within the same periods? This question arises by virtue of Finding XXVIII, *Arvidson* (I-102-D) and Finding XVIII, *Whiteaker* (I-208-B). The question is referred to in our Statement of Points III (I-223-4). (3) Did the trial court err in holding that (a) the claims for damages to both real and personal properties as alleged in the complaints were limited by the two-year rather than by the three-year Washington statute of limitations? and (b) the deposit of solids on Washington lands is not a trespass? Question 3 (a) arises by reason of the trial court's orders entered before trial (I-12, 138) and its Conclusion II in each case (I-102-E, 208-C) holding the two-year statute applicable. It is referred to in our statement of Points I (I-222). Question 3 (b) does not, of course, call for review of the findings, but it does involve the trial court's Conclusion IV in both cases (I-102-F, 208-D).

If the Court is satisfied that solids were deposited on appellants' properties and that, accordingly, a trespass in each case was made out, remand for further consideration of the trial court's Conclusion VII (I-102-F, 208-D) in both cases refusing judgments restraining or

controlling appellee's future operations is clearly indicated. And if the trial court applied the wrong statute of limitations and/or incorrectly determined that appellants' cattle weren't injured, remand is required for proof and/or assessment of damages.

In seeking the setting aside of certain of the trial court's findings, we are mindful of Rule 52, F.R.C.P. providing in part that ". . . Findings of fact shall not be set aside unless clearly erroneous . . ." With respect to this extract, the Supreme Court of the United States recently said in *McAllister v. United States of America*, 348 U.S. 19, 20:

" . . . A finding is clearly erroneous when 'although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed.' *United States v. Ore. Medical Society*, 343 U.S. 326, 339; *United States v. United States Gypsum Co.*, 333 U.S. 364, 395 . . ."

Our specification of errors (Rule 18(2)(d) this Court) takes the form of the following "Points" which are taken up in order in this brief:

### Point I

Solids were continuously and repeatedly deposited on appellants' properties within the two year period of limitations held applicable and up to the time of trial.

### Point II

Appellants' cattle were injured substantially within the two year period of limitations held applicable and up to the time of trial.

## Point III

The Washington law of limitations as to real and personal properties and the Washington substantive law of trespass

A. Rulings of the trial Court.

B. The Washington law of limitations and of substantive law concerning trespass to real property.

C. The Washington limitations law as to personalty.

## POINT I

**Solids were continuously and repeatedly deposited on appellants' properties within the two year period of limitations held applicable and up to the time of trial.**

We think the common law in Washington as elsewhere is that anyone who deposits solid materials on another's real property is guilty of a trespass irrespective of damage. We shall deal with the authorities to that effect below. Here we shall show from the evidence that solids were, within the period of limitations and up to the time of trial, in fact deposited by appellee on appellants' real properties.

Mr. Zeh, appellee's chief chemist, called as an adverse witness, testified that at both the Troutdale and Longview plants five to six pounds of fluorides were consumed for every 100 pounds of aluminum produced (erroneously reported as "per ton") (III-32). He further testified that hydrogen fluoride and cryolite were

the principal escaping fluorides (III-33), and that 90% of the fluorides getting out of both plants are *solids* (III-34). As to the amounts of fluorine leaving the plants, the figures are 750 pounds a day at Troutdale (III-98) and 250 per day at Longview before expansion of capacity from 60,000,000 to 100,000,000 pounds per year (III-71) and no less than 450 per day thereafter (VII-1673, 1614).

Mr. Zeh said that appellee started testing vegetation in 1946 and air in 1949 around both plants in order to determine how much fluorine was getting out and where it went (III-37). Both plants have fume control systems (III-33) and, generally speaking, the fluorine in the samples declined as the controls were installed at both plants (III-41).

Mr. Zeh testified that normal vegetation contains 20-25 parts per million (ppm) fluorine (III-42) and that results above that range indicated airborne fluorides (III-73). This he knew because he had tested various materials outside of contaminated areas (III-73). Appellee's forage testing results near the Whiteaker place in the last four months of 1952 averaged well over Mr. Zeh's "normal" figure of 25 ppm (III-44, I-160). Those results were also well over those figures for the same four months in the three or four years prior to 1952 (I-158-160). They were also over "normal" in the spring of 1953 (I-161). When asked whether the increased fluorides were associated with appellee's increased capacity at Longview (from 60,000,000 to 100,000,000 pounds per year) which took place August 1952, he said that "good common sense" so indicated (III-47).

Appellee for some time had maintained a testing station near, but not on the Rawnsley, Josephson and Goldsmith places. Had the results been obtained on those farms instead of on the station, Mr. Zeh thought the results would have been comparable (III-66). Those results for the summer of 1953 were at or above the witness' "normal" figure of 20-25 ppm (I-172), and Mr. Zeh eliminated the possibility of a non-Reynolds source when he said, " . . . there are no other large users of fluorine in there" (III-60).

As to Troutdale, appellee maintained 13 stations on the Washington side of the Columbia. Had the results obtained been obtained on appellants' farms instead of on the stations, the results would have been comparable (III-79). Later Mr. Zeh explained that the testing stations had been selected by agreement for the trial because they bracketed the farms and that the station results obtained were comparable to results that would have been obtained on the farms if the distances between the two were reasonable (III-122). Similarly to his Longview testimony, Mr. Zeh eliminated any non-Reynolds source of fluorides at Troutdale by testifying that the only other source there was a small sawmill (III-76). Concerning the results obtained by appellee on its 13 stations (I-58-63), Mr. Zeh agreed that in 1948 and 1949 all stations were over his "normal" of 20-25 ppm at some time of the year; that all except one station was in 1950; all except four were in 1951; all except one was in 1952 (III-80); but that only six of the 13 were in 1953 (III-81). He didn't know why the 1952 results

were higher generally than those in either 1951 or 1953; but he saw no great difference statistically (III-81).

On appellee's testing results and on the admissions of this one adverse witness, it is perfectly clear that appellee is a substantial user of fluorides at its Longview and Troutdale plants; that fluorides do escape from those plants; that 90% of the escaping fluorides are in *solid* form; and that more than "normal" amounts of fluorine in *solid* form regularly year by year up to the time of trial had been deposited on appellants' farms. If the Court will carefully consider the references to Volume I of the transcript noted in the three preceding paragraphs, it will be apparent that as a matter of mathematics appellee was depositing *solids*. Thus, for example, appellee took eight samples near the Whiteaker farm in the fall of 1952 beginning in September. The results ranged from 26 to 60 ppm (I-160). Subtracting Mr. Zeh's 20-25 ppm as "normal" and applying his 90% particulates to the balance, the result establishes solids on the testing stations.

That solids arrived on the farms does not depend on this mathematical showing. There was direct and uncontradicted testimony on the subject. Dr. William E. Caldwell, a witness for appellants, is a chemist who was trained in meteorology (IV-441). He had visited the plants and explained that when the fluorides leave the plants they travel with the wind currents. The cloud containing the fluorides spreads 20% of the distance traveled (IV-444) and rises and falls 10% of the distance traveled (IV-445). The size of the escaping solids at the

two plants is sub-micron to 10 microns. At these sizes and assuming that 90% of what escapes is in a solid form and that the wind blows 4-6 miles per hour, the solids would travel with the air stream and adhere to the ground proportionately to the square of the distance from the plants (IV-448). Dr. Caldwell had previously (IV-446) testified as to average wind speeds. He concluded by saying that at two miles from the plants one-half pound per acre of fluorine would be deposited annually. At four miles the deposit would be two to three-tenths pounds per acre per year and at eight miles one-tenth pound per acre per year (IV-464-5). These fluorides, he said, would be in the form of cryolite particulates, sodium fluoride and mist particles (IV-465).

It will be noticed that the amounts mentioned by Dr. Caldwell are measures of *solids*. These amounts were elicited on cross-examination. The testimony was:

"Q. Assuming the conditions as they exist and existed at Longview when you made your visits there, how much fluorine in the form of fluorides would accumulate about two and one-half miles from the plant measuring it on an acre basis over a period of one year, if you know?

A. Are you asking if I have an opinion of the amount?

Q. Yes.

A. My answer to that is yes. Now are you asking for an estimated amount?

Q. That is right.

A. May I give background for my estimate?

Q. Well, you give me the answer; then you can give the background after.

A. My estimate is that there would be approximately a half pound per acre per year at about two miles from the plant.

Q. And what would it be at four miles?

A. It would be less at four miles, not taking square roots.

Q. An eighth of a pound, would you say? Double the distance?

A. Not taking square root mentally I would say it would be three tenths or two tenths per pound.

Q. What would you say about eight miles?

A. Progressively less with distance.

Q. Well, what would you estimate it to be?

A. I am not here taking square roots and carrying this out exactly on an arithmetical basis. I would estimate somewhere of one tenth of a pound.

Q. Per acre at eight miles?

A. Yes.

Q. What would that be, in what form, particulates?

A. It would probably be some cryolite particulates, sodium fluoride, gaseous HF which would have then been absorbed into the form of droplets, mist particles.

Q. That is eight miles away?

A. Yes." (IV-464-5)

The real properties of all appellants in both cases are well within eight miles.

The following review of other experts' testimony (all on behalf of appellants) concerning the deposit of fluorides is to some extent cumulative. Its importance additionally, however, is (a) three independent experts gave their opinions that appellee was the source of the fluorides and, (b) the same experts thought that 10-15 ppm was "normal" on pasture grasses. It will be recalled that Mr. Zeh, an interested employee of appellee, said 20-25 ppm.

Dr. Allmendinger is a highly qualified expert who is in charge of the Western Washington Experiment Station at Puyallup, Washington. He has worked on the fluorine problem since 1943 (III-127). In his opinion anything over 15 ppm fluorine on pasture grasses or gladioli represents airborne fluorides (III-142-143). His figure was 10-15 ppm on prunes. When the Troutdale plant was closed from September 1945 - September 1946, he obtained results on prunes in the summer of 1946 down to 17 ppm, while in July and August 1945 the results were 150 and 119 ppm (III-156). In 1947 the prune samples were up again to over 300 ppm (III-156). The course of his Troutdale area testing thereafter is shown by the following testimony:

"Following down through the analyses we get considerably, or I should say quite high samples during 1947 and 1948 and there is one sample 178 during 1949, but all of the samples taken there are much above that which would naturally occur in 1951 and 1952.

Q. Let me interrupt you for a moment if I may, Doctor. It is also an agreed fact in the Arvidson case as of the fall of 1950 Reynolds installed a new control system to begin operating at that time which increased the efficiency of its fluoride collection devices from the pre-existing about 62% effective to approximately 90. With that fact in mind would you proceed?

A. Well, beginning in 1951 the average of the results would be somewhat lower during 1951 and 1952 than the two samples taken in 1953. They also show somewhat lower, but still above what you would expect to occur without contamination." (III-156-7)

With respect to the agreed fact that the Longview plant was also closed for a period of time, Dr. Allmendinger was questioned and responded as follows:

"Now it is an agreed fact in this case that the Longview plant was closed between the spring of 1947 and the spring of 1948. With reference to that agreed fact would you please interpret the prune leaf results shown on this page?

A. The best place to show that is in this location marked '25th & Beech.'

Q. Where is 25th & Beech?

A. It is on the northwest side of Longview, I believe, oh approximately a couple of miles, I would say, from the aluminum plant. The fluorine analysis of these prune leaves as you will note for 1945, the two records taken there 404, 419, show considerable fluorine in the air. In fact, those are rather high readings. 7/25/46 we got a reading of 208. Then in June and September 1947 the readings were quite low. Reading in 1948 again the first reading in June is moderate and then the fluorine content increases. Through each of the following years we have picked up considerably high readings and you will notice, generally speaking, there is a trend for fluorine content of the foliage to increase from early in the spring to the fall. This is not uniform as perhaps you will get a low sample or high sample, but generally speaking there is a tendency for the fluorine to increase as the season advances in foliage.

Q. What do you conclude from that fact?

A. Well, it appeared that the, since the fluorine content was reduced during the period that the plant was out of operation and immediately started to rise again after the plant came into operation, that Reynolds was the source of the contamination involved.

Q. That is your opinion?

A. That is my opinion." (III-167-8)

Mr. Miller, a chemist and an associate of Dr. Allmendinger, did all the fluorine analyses on the project (V-209). He has also been engaged in the fluorine problem for nearly 10 years (III-210). In his view normal forage should contain not over 10 ppm fluorine and neither should gladioli (III-215-216). As to prunes, his level is 15 ppm (III-216). He agreed with Dr. Allmendinger that the extreme variation in the fluorine content of prunes between the times when the two plants were open (III-217-8) and when they were closed as shown by Exhibits 20 and 520 was attributable to appellee's operations (III-219).

Dr. Compton's experience with fluorides was similar to Dr. Allmendinger's. He has been working on the problem of airborne fluorides since 1948 (V-998). He has worked with pasture grasses, buckwheat, gladioli and has tested air for fluorine content. He is currently conducting an experiment on Sauvies Island, Oregon. His control (i.e. in a non-flourine area) stations for that experiment at Dayton, Newberg and Corvallis, Oregon show for grasses, 2 to 4.7 ppm. On his air sampling at the Troutdale airport he got a fraction of a part per billion fluorine (V-1015), while he never got any at Corvallis (V-1051). Over 10 ppm on pasture grasses indicates to him airborne fluorides (V-1013).

The most recent results obtained by appellee on the testing stations nearest the Whiteaker place as shown by pp. 13-14 of the Pre-Trial Order (I-157-161) indicated airborne fluorides to Dr. Compton as did also the 1951-53 results obtained by the Western Washington

Experiment Station on the Whiteaker place (I-163-164). As to the results obtained by appellee near, but not on the Rawnsley, Josephson and Whiteaker places (I-169-172), Dr. Compton testified as follows:

“A. For 1948 on page 18 there seems to have been quite a lot of fluorine there throughout the sampling season, and in my opinion looks like it would probably be airborne fluorine even though it is what you say, five miles away?”

Q. About five miles east southeast of the Long-view plant.

A. And the same thing would seem to apply in 1949 with the exception of that sampling on August 23rd, and in 1950 there are, starting in March 17th, values running above 10; 11 parts per million on May 19th is borderline, and I wouldn't say one way or the other whether that was airborne or not, but the others would indicate that possibly there is a little airborne fluorine in the area, at least as indicated by those samples up to the sampling of August 17th. From then on the values are about like our normals or controls indicating no, in my opinion, no atmospheric fluorine contamination from March 17th on through the sampling season.

Q. Take a look at the next page, please.

A. Well, the values run from about 3.2 parts per million up to about 41 parts per million, and only those values of 10 or above that I have any suspicion of, and I see two twelves and I wouldn't put too much weight on these because these, I assume, are single values.

Q. You may so assume. It is a single sample.

A. Yes. So the atmospheric fluoride contamination in my opinion was pretty low during that particular season at that farm except on the 18th of August (I-171) when it went up to 41 parts per million.

Q. All right. Now as to 1952, if you will?

A. Well, there are two or three high values there.

One, 106 on the 20th and 21st of August and another value of 37 on July 22nd, and a number of, well 10 and some twelves. In general there was atmospheric fluorine contamination it looks like in 1952 with the exception of those times when the values were 10 or below. Again I would not place too much importance on values running 11 and 12 because they are borderline. As I have indicated right along, they are on the borderline and again these are single values.

Q. How about 1953?

A. In 1953 the values running from 29 down to 9.5; all fairly low in my opinion. I wouldn't say there is any atmospheric contamination on first sampling which was January 28th or 29th it would indicate, nor would I be very much concerned about the samplings, the sample taken on April 29th. The others indicate there is possibly some atmospheric fluoride contamination in the area, but not too much.

Q. What would you say about the period—what would you say about the last three samples standing alone?

A. Well, they are considerably higher than any of the others or the average of the others for that season indicating a little greater atmospheric contamination for those three samplings." (V-1022-24)

Dr. Compton's views with respect to appellee's 13 testing stations bracketing the Arvidson appellants' farms are as follows:

"Q. Have you got the Arvidson pretrial order?

A. Yes.

Q. Doctor, will you take a look at page 28 and 29. Those are agreed on figures, Doctor, and they represent a sampling of forage grasses done by Reynolds, and it is agreed that the results set forth on those two pages for the years 1948—I am sorry, it is three pages, and ending on page 30 (I-58-63). It

is agreed that those results on pasture grasses upon analysis by Reynolds did contain those many parts per million. Is there anything that you want to add to the generalizations you made on the figures in the other pretrial order after looking over this bunch of figures in the Arvidson order?

A. Well, let's take it by years. The samples taken in 1948 are usually, well, with about two exceptions that I see now are all about 10 parts per million, a few elevens, but some of the values go up in the sixties and so on. For that year for those particular station samples it looks like there has been rather an appreciable amount of contamination of that pasture.

Q. I might say, as you probably already figured out Doctor, the numbers at the top of the bunch of figures indicate different testing stations.

A. Yes, I understand that, listed up above; I see. In 1949 there are a number more stations of 10 or less, but in general there has been rather appreciable atmospheric contamination as indicated by these figures for it looks like all of those stations for the months of the season that was sampled with the exception, of course, of those values running 10 or less.

Considerably less contamination in 1950 as indicated by a rather large number of values below 10. There were times when there was rather appreciable amount at some stations during that year, but by and large the contamination was very much reduced from what it was in the previous two years.

In 1951 the values are even lower it seems like than they were in 1950, although that might not be upon a little longer examination.

The last three years it looks like contamination has been materially reduced over what it was the previous two years.

Q. I wonder if I could direct your attention to 1952, Doctor, as compared to 1951 and 1953?

A. 1952 vs. the other two. Well, there seem to

be more high values, values above 10 for the latter part of 1952 than there were in 1951, and especially so at some stations. In 1953 most of the values, it looks like, are 10 or below indicating that the contamination that year was even less than it was in 1952 and possibly even in 1951. I can't tell by glancing at a sheet like this." (V-1031-33)

Mr. Zeh had testified that he averaged the fluorine results he obtained (III-58). In response to some questions by the Court, Dr. Compton had some interesting things to say about averages and also the effect of the winds upon the deposition of fluorides. The colloquy deals with the figures at the top half of p. 22, Whiteaker Pre-Trial Order (I-177-8) and was as follows:

"THE WITNESS: Well, in 1951 the average is 15.8. That would indicate for the season as a whole there has been atmospheric fluoric contamination, and the same thing would apply to 1952 for the season as a whole.

THE COURT: But only by a very small margin?

THE WITNESS: That is right, that is right, very small margin, to be sure, and of course we always have to look at what makes up an average, and in 1952 the range is from sixty-six down to two, quite a wide spread.

THE COURT: That is the biggest spread of any of those?

THE WITNESS: Yes it is. It would be dangerous, I think, to use averages. They mask the variation that we find within the season and that is always true. If we can say this average plus or minus value, that would give us some idea of the range we are working with, but when we get an average like this nineteen and you can very well see it makes quite a difference. It doesn't even approach sixty-six nor does it approach two, so that average I

would think in my opinion is very misleading. It doesn't show the picture at all.

THE COURT: One other question I have in mind and that is apparently—I don't want to anticipate, maybe you are getting to this, but I'd like to while it is in my mind.

MR. CRONAN: Very well.

THE COURT: Apparently the fluorine concentration must dissipate very rapidly or, in view of the fact that monthly, one month you have got sixty-six and the next month you have got 2. Does—is it a logical inference to draw from that that you, that the contamination disappears very rapidly or may disappear very rapidly?

THE WITNESS: Well, the contamination at the source may vary, yes, and that will vary due to wind movement. But maybe what you are getting at is what happens in the grass itself, is that it?

THE COURT: Yes, I'd like you to give me an explanation of how it comes about that you may have for example, for a period of two or three samplings you will have quite high readings and then all of a sudden you will run into a period when there will be very low readings. Now the—one would—the lay person would assume from that that the contamination rather quickly dissipates or disappears.

THE WITNESS: That is exactly right. It will depend on wind movement. If it is a steady wind for a long period of time from certain definite definite direction blowing on that farm from the source, we could expect high values. If there are periods of calm or periods when the wind has shifted in the opposite direction, then the contamination would probably be reduced to zero.

THE COURT: That is just a little different point than I had in mind, but I am glad to have that too.

The point I am getting at is that apparently if you had a high parts per million for say two or three months in a row and then supposing the

source, whatever the source might have been, was completely shut off, then right away immediately your sample would immediately go down to practically nothing and I would take it, or at least a lay man would take it from that that when the source of contamination is stopped that the contamination in the grasses and the pasture and the vegetation very quickly dissipates and disappears?

THE WITNESS: It would if that pasture were clipped off or the cattle were eating it off and new grass comes up. Grass, pasture grasses grow from the base of the leaf up, not from the top of the leaf, so that when we cut it off then new grass is coming up from below, that is, the blade is increasing from the base toward the top. The growing point, in other words, is at the base of the leaf.

THE COURT: And that happens quite rapidly?

THE WITNESS: Very rapidly, yes sir.

THE COURT: Because otherwise if you had values running at say the level of sixty in a given month and then the, well say the source of contamination is cut off, if it, that value of sixty would still remain there for some length of time afterwards except for the very rapid growth of the plant and disappearance of it, is that the explanation?

THE WITNESS: Yes, and another thing is that fluorine accumulates in the tips of the grass leaves, grass blades and we remove that when we clip it or when the cows eat it off. The new material then has to be exposed to the fluorine from wherever the source is, to get another supply." (V-1028-30)

We believe the above summary of the evidence clearly shows that appellee in both cases was continuously and repeatedly depositing solids on appellants' properties.

## POINT II

**Appellants' cattle were injured substantially within the two year period of limitations held applicable and up to the time of trial.**

This portion of our brief is designed to show that appellants' cattle were injured substantially in fact: it is not designed to show any particular amount of damages. If this Court agrees, the amount of damages is, of course, for the trial Court on remand.

We do not think for the purpose stated it is necessary to go further than to show this Court that a representative group of appellants in each case owned cattle that appellee injured. We want to emphasize, however, that the cattle claims discussed are representative and that this portion of the brief is designed merely to show that the trial court was wrong in finding in each case and as to all claims that "Plaintiffs' cattle were not injured . . . " (I-102-D, 208-B).

The representative group of claims we have mentioned takes the following form. There are 10 dairymen and three beef operators in the *Arvidson* case (Miller withdrew). Five of the dairymen are "Grade A" shippers of milk and five are "Grade C" or "factory milk" shippers. There are four "Grade A" shippers only in the *Whiteaker* case. Two clear elements of damage suffered by the dairymen are: (1) Physical abnormalities suffered by their cows; and (2) Loss of milk production. (We do not believe it necessary to deal here with the beef operators' somewhat different types of losses for the

purpose stated). Six *Arvidson* dairymen appellants, three "Grade A" shippers and three "Grade C" shippers, and two *Whiteaker* dairymen appellants, both "Grade A" shippers have been selected for the purpose of what follows.

The proof as to the eight farms analyzed below with respect to the two elements of damage breaks down logically, we think, into: Section I, which is a rather detailed recitation of the eight farmers' complaints as testified to by them; Section II, which breaks their complaints down into six categories all of which refer to either of the two elements of damage just mentioned; Section III, dealing specifically with lost milk production; Section IV, analyzing appellants' expert testimony; and Section V, commenting on the defense made at the trial.

## **I. THE FARMERS' COMPLAINTS ABOUT THEIR COWS.**

### **A. The Whiteaker Case.**

#### **1. Rawnsley**

Mrs. Rawnsley testified that she and her husband had been on their present place in Kelso, Washington since 1936 and before that lived at Rose Valley, four miles from Kelso (VI-1141). They started in Rose Valley in 1932 or early 1933 and had 16 purebred Jerseys. She operated the dairy and their retail route in Rose Valley while Mr. Rawnsley worked elsewhere (VI-1142). She also oversaw the milk house work and the trucks at Kelso at first (VI-1143). They continued the retail route at Kelso until early 1945. There was no hired help in 1946 so she again worked with the cows (VI-1145).

When they first got Holsteins at Kelso, the barn had to be remodeled to accommodate the cattle because they were bigger than the Jerseys. Now the daughters and granddaughters of those Holsteins fit in the so-called Jersey string because they are that much smaller than the original Holsteins. The cattle used to move easily in the barn but now they have trouble moving sideways. There used to be very little room between the cattle in the stanchions and now there is plenty of room (VI-1146). When Mrs. Rawnsley first went back to work in the barn in 1945 she noticed the difference in the way the cattle acted and how nervous and stiff they were. When they laid down it was hard to get them on their feet (VI-1146). She had seen none of these conditions at Rose Valley (VI-1147).

On cross-examination Mrs. Rawnsley repeated that the first time she noticed the stiffness and nervousness was when she first went back to work in the barn in 1945 (VI-1148). She explained that she wouldn't know whether these conditions took place before 1945 because she wasn't around the cattle enough. There was a shortage of milk before they sold the retail route. She was then asked whether that would be prior to 1940. She at first replied "yes", but the date was later corrected to prior to 1945 (VI-1152). She also said she didn't think the milk production was normal now (VI-1152).

Mr. Rawnsley also testified that the Rose Valley operation started early in 1933 and he agreed his wife was in charge of the herd then. The Kelso start was May 1, 1936 (VI-1158). They kept up the milk route

until the end of January, 1945 (VI-1159), and had 63 stanchions filled most of the time. They milked anywhere from 60 to 110 or 115 (VI-1160). He testified the present ranch will carry 62 to 63 mature cows, plus their replacements (VI-1161). Mr. Rawnsley said the first time he noticed anything unusual was the summer of 1942 when he lost some springer cows. He never noticed any stiffness until about 1945, but then had trouble getting the cows up to the barn (VI-1163). He did some doctoring for hoof rot, but the animals were never lame in the same foot twice so it was something else (VI-1164). Upon examination of one cow he could find no lesions in the hooves and so decided she was lame in the joints (VI-1164). Mr. Rawnsley explained that he had treated cattle for what he knew to be foot rot and used blue vitriol which cured it. When he tried the blue vitriol in 1945 it had no effect (VI-1165). Mr. Rawnsley said that after the war he built up the herd to fill his 63 stanchions but he couldn't hold the production (VI-1165). The cows got thin and stiffness seemed to become more prevalent. Their milking periods got shorter, *but when he moved out of the place in the spring of 1948 because of the flood the production went back up.* When they got back to his place a few of them seemed to snap out of it and they lost the long hair and the stiffness (VI-1166). He really began to get worried about the cows along in 1950. Some cows he had bought in the fall of 1949 made good records one year but when they started their second lactations most of them were " . . . just out of the picture" (VI-1166). They scoured (diarrhea) on pasture and scoured on silage. He would

take them off silage and they'd be all right in three or four days (VI-1166). He also brought in some mature cows in 1950 and they seemed to have no resistance to whatever factor was bothering them (VI-1166). Returning to the flood conditions, he said that at that time he moved the herd to the Cunningham place which is a mile north of Castle Rock, Washington, May 24, 1948. It was there until late in June. He then brought the cattle back to his place and dry-lotted them on eastern Washington hay (VI-1168) on a little piece of ground that was not under water (VI-1167). His own place was covered with water until August 25, 1948. He raised no feed on the place in the summer of 1948 and bought his winter feed that following winter. That feed came from eastern Washington (VI-1169). He was able to raise hay and silage the following year in 1949 (VI-1169). The animals were next on pasture at his place April 1, 1949. They were on pasture all of 1949 and the succeeding years down to date (VI-1169).

The most serious condition in the herd after 1950, Mr. Rawnsley believed, was the loss in size. ". . . it has got to the point where a good many of the three-year olds weigh under a thousand pounds and I don't believe there has been a normal size animal raised on the farm that was born after 1948" (VI-1170). Mr. Rawnsley illustrated this with some weight slips which show that one heifer of his weighed 800 pounds at 30 months. Another was 22 months old and weighed 710. The proper weight, he said, for one just under two years is about 1050 or 1075 and, as to one 30 months old, it should be 1100 or a little more (VI-1173). He then produced seven

slips for cows weighed at three years old which should average 1250 and which did weight a lot less (Ex. 600-D-1-A).

Mr. Rawnsley then testified about some animals that were scouring badly in October 1952. Normally he doesn't have scours in October (VI-1177). The scours, he said, build up during periods of wind from the west and winds a little north of west (his farm is  $4\frac{3}{4}$  miles east-southeast of appellee's plant, I-174-5) and the critical periods seem to come during the times of heavy air before a storm. He gets relief from the scours with a heavy rain. After a heavy rain the scours clear up within two or three days (VI-1177). Fifty per cent of the herd was scouring in October, 1952. He had intermittent scours during November but not as badly as in October. When he has scouring there is a loss of milk production (VI-1178). The cows dropped off in milk pretty badly in October, 1952 and thereafter took "... a terrific drop" (VI-1179).

Mr. Rawnsley then identified some production charts he had prepared from his D.H.I.A. book (a production testing association record) which illustrated short lactations (VI-1182). As to one chart that shows six lactations he explained that this is an unusual picture because, for example, the cow went up to a high peak of 80 pounds on the second month on one lactation so that one could expect 750 pounds of butterfat whereas she actually did 432 (VI-1185). He defined mature equivalent to the effect that one should get 70% of normal out of a two-year old first calf heifer. Applying that to the

six lactations on the charted cow he was just talking about, the picture is definitely wrong (VI-1186). Mr. Rawnsley illustrated the point with another charted animal (VI-1187). Exhibit 600-D-18-B illustrated generally, he thought, his point that his animals milk less on the second and third lactations than they do when the first freshen (VI-1189). Mr. Rawnsley also testified that a normal production curve should go up to within five or six pounds of the peak the first 30 days, peak on the second 30 days, level off at about 90, and then gradually start to drop very little for about two months. That would be normal (VI-1190). He believes his charts illustrate that he can peak the animal at two months but can't hold her; moreover, it doesn't make any difference what feeding schedule he follows; it just can't be done (VI-1191). When asked whether he feeds consistently with a normal production curve, he said that every animal in the herd gets the opportunity until there isn't a possible doubt that she is not going to make the expectancy (VI-1191).

Mr. Rawnsley believes the animals are stiff and not lame; he distinguished by saying that the animals seem to be peglegged in all four legs and hurt in the joints (VI-1192). He further complained that they have long hair, are thin, have short milking periods and are getting smaller from generation to generation. There is also a change in the teeth. Animals normally shed their winter coats by the 1st of May, Mr. Rawnsley said (VI-1192). However, he has had animals up until August that still have red, dead hair on them. This has been true in other years but is more prevalent now (VI-1193). Mr. Rawns-

ley also noticed a little lapping of water back in 1944 and quite a bit in the winter of 1945. He solved that problem by heating the water up about 10 degrees. This cuts down the lapping a whole lot (VI-1196). He still has this a little on individual cows, but not too much now.

Mr. Rawnsley next showed some slides illustrating scours after June 15, 1953, on a three-year old heifer (VI-1205). He had wet heavy air in the morning at that time. The situation reached its climax June 20th and the milk dropped down 25% (VI-1206-7). He then showed some pictures of slab-sided cows, including one that was very skinny in June and later died (VI-1207), together with two pictures of animals that he identified as being 300 pounds light (VI-1208). He also had pictures showing absence of scours, which condition obtained in the latter part of June and early July, 1953 (VI-1209). Some pictures of some calves in very poor condition were exhibited (VI-1209). He lost eight out of 10 of them. He also showed a picture of a three-year old that weighed only 55% of normal and is undersize (VI-1211), and a picture of a five-year old taken June 15, 1953, which was definitely undersized and underdeveloped (VI-1212). He contrasted these with a picture of a normal animal taken for comparison purposes. He pointed out that this animal was slick as the others should be (VI-1213). He finally showed some March, 1953, pictures when there was no scouring; and also some pictures of the animals showing non-scouring when Reynolds' veterinarians were at his place in October, 1953 (VI-1219).

When asked on cross-examination whether scours is something that concerns dairymen quite often, Mr. Rawnsley said, "Not this type" (VI-1224). The last time he had scours different from the one he was complaining about was about 1940 (VI-1224). He attributes the scours to grass contamination he gets when the wind comes from appellee's plant (VI-1225). In June, 1953, he had scours when his cattle were on pasture. *The kind of mastitis he has had in the last five years is mechanical caused by injury to cows that are stiff and cannot handle themselves.* The other two types are bacterial. Mastitis will cause a drop in production but production will not go up before the drop (VI-1228). The condition of rough, red hair he also attributed to the forage which was consumed by his animals. Mr. Rawnsley said that his production from 1936 to 1941 was good (VI-1230). He was a member of the D.H.I.A. during part of that period, but his records during that period were lost in the flood. During the war years when he was not a member production decreased because of fluorine and Bangs disease. He agreed that possibly the decrease was due to some extent to the fact that he wasn't testing in the war years, so he didn't have an adequate basis for culling and that this had some bearing on the lost production during that time (VI-1231). D.H.I.A. testing, he concluded, will help a dairyman regardless of his condition (VI-1235).

Mr. Rawnsley repeated on cross-examination that when the animals went off his place because of the flood, they were gone from May 23, 1948, until late in June

(VI-1240), and that when they came back, they were dry-lotted on purchased feed. He also said again that he had no feed of his own until he got spring pasture, probably in April, 1949.

Mr. Rawnsley believed that one individual associated with Washington State College advised him that the urine analyses would have to show in excess of 10 ppm in order to be toxic to cows or cause damage. When some October 1952 samples were taken, the range was 2.9 to 10.4 ppm but he had no fluorine at that particular time (VI-1245). While he attributed the October, 1952, scours to fluorine, there were no scours at the time the urine samples were taken (VI-1246). He believed the scours broke out early in October and again late in October, and also pretty well through November, 1952. The urine samples were taken October 12 and October 17, 1952. As he recalls, there was little scours in the middle of October. Sometimes the scours don't last 24 hours (VI-1246). Longest period that the entire herd had had scours has been a couple of weeks. He agreed he testified on direct examination that 50% of the herd scoured in October and continued intermittently into November (VI-1247). History of the scours was that he had heavy scours early in October and a week or two with very few scours; then some more in the last few days of the month and pretty heavy in November (VI-1248).

Mr. Rawnsley was also asked on cross-examination about the two calves which were considerably underweight. He said they were not eating their bedding, but if they were, it would not signify they were not getting

enough feed; that is just a habit of animals (VI-1253). It is not unusual (VI-1254).

On redirect examination Mr. Rawnsley said again that the hay he fed after the flood came from eastern Washington and that when he went on pasture the next year the season started in April, 1949, because the seedings were new (VI-1254).

## 2. Whiteaker

Mr. Whiteaker said that he acquired his present place in January, 1948, and moved there in August, 1948 (VI-1464). Before that he lived in the town of Kalama, Washington, about 10 miles southeast of the Longview plant. He had had some troubles in Kalama during the period he operated there from 1942 to 1948. He had some stiffness " . . . and one of the worst things . . . was the lapping of water" (VI-1466). Nevertheless, he thought it was all right to move to his present place in January, 1948 because the plant was then closed and Mr. Shoemaker (the Longview plant manager) said it wasn't going to reopen (VI-1466). He brought a group of heifers to the present place in the spring of 1948. He built a home there and so did his brother (VI-1467). He moved into his house August, 1948 and his brother moved into his house November, 1948. They first had some milking cows there the latter part of June, 1948, 28 or 29 head. They were flooded out in the spring of 1948 (VI-1468), and the cattle were moved out to a place half a mile away from the old place. Later on, in the pasture season of 1948, they were brought back to

a rented place right next to appellee's plant (VI-1469). The animals wintered there until April 1949. No feed was grown on their own place in 1948. The animals came back to the present place April, 1949, and have been there ever since (VI-1470).

Answering a question as to how his animals produced *before they got to the present area, how they produced on the rented pasture and how they produced afterwards*, he said that one cow made 429 pounds at Kalama in 1946, 472 in 1947, and in 1948 she died after 65 days production with 97 pounds of fat. Another did 494 at McMinnville, Oregon, and in 1947 at Kalama 644. For the year ending 4/20/49 she did 396 (VI-1479). Another Chehalis, Washington, cow did 448 in 1946, 372 in 1947, and 347 in 1948. Another did 403 in 1946, 443 in 1947, and 285 in 1948. On a Canadian cow he made 370 in 1947, and in 1948, 205. Another cow did 328 in 1946, 325 in 1947, and 312 in 1948. *His herd average May 1, 1947, to April 30, 1948, was 373.9 pounds of butterfat when the plant was closed, and it has never been that high since.* They have about the same feeding practices ever since they have been on the present place except that in the year 1948-49 they had no silage and raised no home grown stuff in that year (VI-1482).

As to condition, the cattle have had long hair for the last three or four years. They have not been poor in flesh except beginning in October, 1952, at a time when the wind was coming from the southeast (VI-1487). The farm is  $2\frac{1}{4}$  miles northwest of appellee's plant (I-152). In October, 1952, they also had a very bad outbreak of

scours—the worst they ever had. The milk production went down with the scours (VI-1487). The herd average October 1952 was 28.3 pounds butterfat and November was 21. The scours hit about half the herd. It persisted until they had a heavy rain (VI-1488). The rain came in the late fall. They have had lots of stiffness in the cattle. The animals walk slowly; when they come in the barn they stand and shift from one foot to the other. This condition they have had since the fall of 1948. In this last year it has steadily been getting worse. *All these conditions have been worse beginning in the fall of 1952* (VI-1490). Production has been low and is steadily getting worse and the animals are getting smaller generation by generation. A three-year old Jersey in good condition, Mr. Whiteaker said, weighs about 900 pounds (VI-1491). Of the 60 cows they have, six or seven of them are three-year Jerseys and they'll average between 600 and 700 pounds (VI-1491). The two-year olds weigh 400 to 500 pounds and should weigh 600 anyway (VI-1492). The four-year olds are less than 900 and should be between 900 and 1000 (VI-1492). *The two-year olds are the worst* (VI-1492). The animals are not filling out as to frame as well as weight being down (VI-1492). While they have some Holsteins they have never raised any, and so Mr. Whiteaker could not compare them for size (VI-1493).

On cross-examination Mr. Whiteaker repeated that while they had had scouring before October, 1952, that was the worst they had ever had. It came in the first part of October, 1952.

As to his culling, Mr. Whiteaker said there has been no period when he didn't sell many animals or didn't sell at all. Animals have been sold consistently (VI-1502). He thinks Susan is the only animal still in the herd that was there in 1948 (VI-1504).

Mr. Whiteaker testified further on cross-examination that they purchased quite a few cattle from the outside in 1951 and those animals were in the herd for about a half a year as far as that particular testing year goes. Those purchases were started in October of 1951 (VI-1506, 7).

They had some milk fever in 1950 or 1951 and called in either Dr. Guard or Dr. Norman. They don't have very much milk fever; not more than average. They had some in 1952 and 1953 (VI-1507). He knew what acetonemia is, and it is counteracted by glucose shots. They had none this year; one last year and one or two in 1951, and also a few cases of hoof rot. There was no more trouble with mastitis than average (VI-1508).

## **B. The Arvidson Case.**

### **1. Hester**

Mrs. Hester testified that she and her husband had been living in Aurora, Oregon, since September, 1951 (IV-337) and that they lived in Washougal, Washington, before that, beginning June, 1947 (IV-338). The Washougal place is  $4\frac{1}{2}$  miles northeast of appellee's Troutdale, Oregon plant (I-36). They had some Bangs trouble in Aurora in April, 1952 (IV-340). When the Bangs hit them, the milk cows averaged six to seven

years of age. They got rid of the Bangs cattle (IV-340), and the average age of herd in the fall of 1953 was four years (IV-341). She testified on cross-examination that they had had no Bangs trouble at Washougal.

Mr. Hester testified that he now (1953) has three clean Bangs tests in a row (IV-352). He went on to say that at Washougal the animals didn't hold up in flesh as well as they should have and that he had had a lot of trouble with lameness (IV-369). The feet of the cattle swelled up at Washougal (IV-370). Dr. Keller (his veterinarian) gave intravenous shots which did not cure the lameness but did get them out of pain (IV-370). Mr. Hester felt that on the production they made at Washougal they should not have gone down much in flesh (IV-370). The animals were sort of rough at Washougal and didn't lose their winter pelts as they should have (IV-371). He tried blue vitriol to stop the lameness at Washougal (IV-371). This is ordinarily used for infections but it didn't do any good (IV-372). The animals are now (1953) in good condition and at Aurora are getting better (IV-372). They milk a lot better now than they did at Washougal (IV-373), even though the average age of the herd is now between four and five and was between six and seven before they got rid of the Bangs cattle (IV-373). He still has seven of the Washougal cows (IV-373). They are better in flesh and in their milking now (IV-374). But they are not in as good condition as the other Aurora cows (IV-374).

On cross-examination Mr. Hester said the animals were in fair condition when he purchased them in Wash-

ougal (IV-375). But they were not in really good condition (IV-375), and he did not make a close physical examination of the animals before buying them (IV-376). He merely watched a couple of milkings (IV-376). At the time of his purchase they were in pretty good shape (IV-377) but he had a lot of lameness the following July; that is, 1948, and had not observed it up to that time (IV-377). By the summer of 1952 following the move to Aurora, Oregon, the animals improved quite a lot (IV-378).

Mr. Hester further testified on cross-examination that he did not purchase much Goldendale hay the first winter he was there (IV-380). During the winter of 1949-50, his third winter there, he fed Goldendale alfalfa exclusively and no locally grown hay (IV-382). No locally grown hay was fed in the winter of 1950-51 either (IV-382). He agreed that he testified on his deposition that in the winters of 1949-50 and 1950-51 he fed straight purchased Goldendale hay (IV-383). The Goldendale hay purchases the first two winters were in an insignificant amount (IV-385). On the hay Mr. Hester concluded that a little bit of locally grown hay was fed in the winters of 1949-50 and 1950-51 (IV-389).

Mr. Hester agreed that on the average during the Washougal years he was milking about 20 cows (IV-390). When asked on cross-examination whether his milk production didn't gradually increase at Washougal, he said: "Yes, after I started feeding straight Goldendale alfalfa it did increase. In fact, it always did in the winter when I started feeding alfalfa hay it would increase"

(IV-392). When asked whether the herd wasn't a pretty high producing herd for a grade herd because it was pretty close to 300 pounds B.F., he said he wouldn't call that a high producing herd but he would call one at 350 to 400 a high producing herd (IV-394).

On redirect examination, it was brought out that Mr. Hester's veterinarian fees as shown by his tax return for 1947 were \$53.83; for 1948, \$116.90; 1949, \$123.60; 1950, \$179.50 (IV-405). He agreed that his testimony as to the Goldendale hay is that he fed small amounts of it the first two winters he was in Washougal and fed it exclusively the last two winters (IV-407).

On recross, he did not recall how much veterinarian fees he paid in 1952 at Aurora (IV-414). A veterinarian was there once in a while during 1952 for a milk fever and in 1953, once for a nail infection (IV-414). The cattle now at Aurora are in pretty good flesh, he said (IV-415).

## 2. Isbister

Mr. Isbister said he had gotten rid of some cattle on account of a little stiffness and soreness in the front legs (IV-479). He ships such cattle as soon as he can (IV-479). *The soreness is on the back part of the front foot* (IV-479). He had had the scours once (IV-480). He started with one and went through the whole herd (IV-480). This is different from spring scours, he said, because they get thin and they also go down in milk (IV-480). Speaking generally of the last four or five years, his milk production has not been what he expected (IV-481); *that is, they milk all right for a couple of months*

*and then fall away. He finds his cows have been drying up in anywhere from two to six months (IV-481). He didn't notice this particularly until lately, by which he meant the last several years. As to his sales of cattle, he identified one in 1952 and another in 1951 because they fell off in production, and two more in 1951 because they got lame (IV-483). He then identified another sale in 1950 because she got lame (IV-483). Mr. Isbister said he raises two or three heifer calves every year (IV-485).*

On cross-examination, Mr. Isbister said he first experienced low production in the herd about 1947 (IV-488). He identified Pol and Flo as having been sold on account of lameness in 1951 and said they were stiff quite a while before they were sold (IV-488). The first stiffness he saw in the animals was about 1949 (IV-489). In 1947 he first noticed the milk production loss although he admitted it could have been earlier and could have been later (IV-489). His production this year has been not too good (IV-490). He thought his production in 1951 was about the same as 1952 and 1953 but he hadn't checked up (IV-490). His production for those three years has been not too good (IV-490). His production in 1949 and 1950 was about the same as the other three years (IV-491). He agreed that he testified in his deposition that 1948 and 1949 were his bad years, although what was read from the deposition was that that was right as far as he could tell (IV-493). He agreed that his testimony now is that the production for 1952 and 1953 was the same as for 1950 and 1951 (IV-493).

Testifying about particular animals, Mr. Isbister said he sold Pansy in 1952 because she was a poor producer

and had been all the time (IV-494). She was not stiff and did not limp (IV-495). He said he sold Flo because she was sort of lame (IV-496), but corrected the name to Pol. Flo was sold because she got stiff and wasn't much of a milker (IV-497). He still has an animal by the name of Lena whose production is fair (IV-499). He agreed that Lena was said in his deposition to be a good producer (IV-500). Dolly is and has been a good producer (IV-500), but this, he explained, is only by comparison with some of the others (IV-501). Jean dries up too soon (IV-501), and this has been progressive (IV-501). Her production is not normal this year (1953) (IV-502). Joan is a little thin but otherwise is in good condition (IV-503). Lily and Dot are all right in condition and production (IV-505). Joy is a little rough and a little thin but she milks well for a couple of months and then goes down to six pounds per milking (IV-505). Bonnie wasn't ever much of a producer but she always stayed in good shape (IV-507).

On redirect Mr. Isbister said he thought the herd production from the time of his deposition to date has been below normal according to the way he feeds and takes care of his cattle (IV-512).

### 3. Seekins

During the last four or five years Mr. Seekins has noticed some stiffness in his animals and he has had scouring through the herd (IV-527). He has had that off and on during the pasture season (IV-528). He has had scouring on the pasture season *other than in the spring* (IV-528). Three of his animals out of seven at the pres-

ent time show some stiffness (IV-528). He has noticed that the stiff cows are the last ones to come in for feed (IV-529). His animals are not milking as well as they should (IV-529). The younger cows will hold up better for the length of their lactations than the older ones (IV-530). The cows hold up pretty well in milk irrespective of age for the first part of their lactations but they drop off quickly (IV-530).

On cross-examination Mr. Seekins said he had a family cow before 1947 but first got into the milk business at that time (IV-540). He said it's hard to answer a question whether the herd production has been about the same since 1948 although the older cows have a tendency to drop production (IV-550). Two nine-year olds and one eleven-year old are those he identified as having a tendency to drop production (IV-550). He thinks that his average production has gone down some since 1948 (IV-551). When a portion of his deposition was read to him where he said his production was about 310 or 320 B.F., he testified that, if that is interpreted to mean what the production actually was, he misunderstood the question (IV-553). What he meant was what the level should be (IV-553).

Mr. Seekins agreed on cross-examination that a cow he purchased in 1952 near Orchards did not do well even in the first year he had her (IV-560). He also identified one that he purchased in 1948 for \$190.00 as being sold in the same year for \$250.00. Nothing was wrong with her at the time of sale (IV-561). Spot is still in the herd and is doing well and in good condition (IV-562). A couple of Holsteins identified at the time of his deposi-

tion are still in the herd and they are in good condition (IV-562).

On redirect he said again that at the time of his deposition he was trying to estimate what his production should have been (IV-564). As to the drop of production in Beauty, Lady and Susie, *the loss was caused by short lactations rather than a low rate of production during a normal lactation* (IV-565). *Lady is practically dry now although she freshened in February or March.* Susie freshened in April and is giving some milk at the present time. He has had trouble rebreeding Beauty (IV-566).

#### 4. Depoe

Mrs. Depoe testified that the Depoe dairy operation started in the fall of 1945 and continued until March, 1952 (IV-568). After March, 1952, they had crossbreds on the place and the production of milk then went to raising calves.

Mr. Depoe testified that between the fall of 1947 and March, 1952, the cattle were thin, had swollen legs and were tender-footed (IV-583). These conditions got worse and they wouldn't eat alfalfa or grain along in 1949 (IV-584). On the spring pasture in 1950 three of the cows were in such bad shape that they *could not graze in a clover field*. " . . . They just staggered out there in the field and lay down. Whenever I got them out there they'd lay right down and feed just as far as they could reach" (IV-584). He kept them for a couple of months and then shipped them to the yards (IV-584). Mr. Depoe identified these animals from his sales slips (IV-

585). His worst trouble was in 1949 and 1950, though he has had trouble ever since. Some of them look badly right now; the others are in pretty good shape (IV-585). His cattle have had trouble drinking water which they lap like a dog (IV-586). He still has that problem though he doesn't notice it so much in the beef stock which he now has (IV-586). Earlier, when he had milk cows, some of the cows hardly gave enough milk for a calf (IV-587). He bought and sold a lot of cattle trying to keep up milk production. They didn't hold weight; seemed to be thin and were unusually rough looking (IV-587). They shed late in the spring. The stiffness he had seemed to be in the knees and feet. The cattle would stagger from the stiffness (IV-588).

On cross-examination Mr. Depoe identified *Molly*, *Midge* and *Jane* as the three animals he had so much trouble with in the spring of 1950 (IV-592). Others he sold because of the fact they were not milking right (IV-593). He identified a couple of animals he sold because of mastitis and agreed that another that was 10 at the time of sale was a fairly old cow. He did not sell cows ordinarily for milking purposes. He could recall only one so sold. They usually weren't producing well enough to sell for milk production (IV-598). He recalled testifying on his deposition that a couple of animals were sold because of other trouble (IV-601). He recalled that *Belle* and *Queen* were sold because of mastitis (IV-602). The worst trouble he had with lameness and stiffness was in 1949 but he thought he had some in 1948 too (IV-604). Mr. Depoe said he pastured only his young stock on some rented property (IV-606) which is 10

miles west and little north of his place (IV-606). As to Milly, Midge and Jane, *he did not think they were on the rented property in 1948 and 1949* (IV-607). Dr. Phelps advised him to feed those three animals cod liver oil and minerals, which he did (IV-607), but did not get much change (IV-608).

On redirect, Mr. Depoe said he thought the amount of mastitis he had between the fall of 1945 and the spring of 1952 was about normal if not less (IV-612). A cow named Lazy did all right on her first calf; not so well on the second, and on the third calf she isn't doing anything (IV-612).

#### 5. Stauffer

Mr. Stauffer testified *he has been a dairyman for 40 years* (IV-617) and has been on his present farm since 1937 (IV-617).

Mr. Stauffer said that after milking about three months his cows begin to drop off (IV-626). He raises seven to ten heifers per year (IV-626) and even that number is not enough to keep the herd going at this time. He had to get rid of some cows that weren't producing (IV-627). In addition to lack of production, he had to get rid of some because they were lame and stiff from the knee down and their feet would be puffed up a little (IV-627). He also said that when the animals drink water it takes them quite a while to get started (IV-628).

On cross-examination Mr. Stauffer said that the lameness and stiffness in his herd started about 1948 or

1949 and at that time his cows began to drop in production. He thought the drop in production occurred before he noticed the lameness (IV-629). He also thought he had sold more animals to the yards than he would have to sell normally (IV-639). *Three would be a normal cull for a herd of 24* (IV-640). When asked whether he recalled testifying on his deposition that he would expect to cull seven or eight out of 25 under normal circumstances, he replied that he does that now but would not in a normal herd (IV-640).

#### 6. Baker

Mr. Baker testified he has averaged 26 to 30 cows in his herd (IV-671). He also said that he had had to sell " . . . an awful lot of cows" (IV-673). They were sold because they got lame and low in production and because they got stiff and sore (IV-674). When the cattle are turned out of the stanchions it seemed to Mr. Baker that their legs hurt and they just stood there (IV-674). Mr. Baker said that sometimes they just lick water when it is cold (IV-675). He raises six to eight heifers per year and buys some (IV-675).

When asked on cross-examination whether his milk production per animal hasn't been the same since 1947, Mr. Baker said he thought it was down a little in 1949 or 1950. He agreed it is back up some since then (IV-683). He didn't know how far down the production went in 1949 and 1950 (IV-683).

On redirect Mr. Baker said he has had a Bangs test every year so that on 150 individual test he has had only two reactors (IV-696).

## II THE FARMERS' COMPLAINTS ABOUT THEIR COWS BY CATEGORIES.

Section I above shows clearly that the difficulties encountered and testified to by the farmers individually were essentially the same. The complaints of the eight farmers underlines the striking fact that the principal differences are ones of degree and not of kind. Moreover, as we point out below (Sec. III (b)), *whatever the difficulties were, they were alleviated when the cows got away from fluorides and got worse as the fluorides increased*. Section I above summarizes in detail what eight farmers complained about. We shall now group the complaints into categories in an attempt to point up the farmers' complaints in summary fashion.

### 1. Short Lactations.

Mr. Rawnsley described a normal lactation in detail:

"Q. Could you illustrate for the Court—that is, this document, now could you illustrate for the Court what a normal production curve for ten months looks like?

A. Well, a normal production curve as I see it, should go up within just a point, as a point of illustration, maybe five, six pounds of the peak the first 30 days and then possibly go to its peak the second 30 days, level off, maybe the same at 90 days, and then gradually start to drop very little for possibly two months, and then the curve would be gradual the balance of the curve. That would be normal.

Q. Gradually take the tapering off so that the curve is finished at 10 months, is that it?

A. That is right." (VI-1190)

Mr. Rawnsley produced charts he had constructed from his D.H.I.A. records on individual cows to illustrate

his testimony that his herd did not perform in accordance with his definition of a normal lactation (VI-1182, 1185).

Mr. Isbister corroborated Mr. Rawnsley. Mr. Isbister complained of low production. He attributed the low production to short lactations in the following language:

“Q. In speaking generally in the last four or five years, Mr. Isbister, would you say the milk production of your herd has been about what you expected or otherwise?

A. No, they don't seem to hold up like I would like them to.

Q. What do you mean by 'hold up'?

A. Well, they will milk good for two months and fall away and then milk good for six months and then fall away.

Q. How long does a cow ordinarily milk?

A. Well, I usually milk them about 10 months altogether.

Q. You found, however, that your cows had been drying up in anywheres from two to six months?

A. That is right.

Q. Has that been a condition that has been noticeable at any particular time, or what?

A. I didn't notice it until lately. Of course, when you sell milk you notice more than when you wasn't selling milk.

Q. Well now, what do you mean by lately?

A. Last several years.

Q. Last several years, did you say?

A. Yes.” (IV-481)

Mr. Seekins also expressly complained of short lactations. He said his younger cows milk longer than the older ones and that they all hold up well for the first part of their lactations (IV-530). He said his trouble,

so far as milk production was concerned, was caused by short lactations rather than a low rate of production during normal lactations and he identified some short milkers by name (IV-565). Mr. Depoe said that the real reason he shipped cattle to the yards is that they weren't milking right (IV-593), and Mr. Stauffer said that his cows begin to drop off after milking about three months (IV-626).

## 2. *Low Production.*

As we have just seen, five of the eight farmers, in complaining of low production, specifically complained of short lactations. The other three did not specifically mention short lactations, but did complain of low production (*Whiteaker*, VI-1490; *Hester*, IV-373; *Baker*, IV-674). We relate below milk flow of fluorine intake (Sec. III (b)).

## 3. *Stiffness and Lameness.*

All eight farmers complained of stiffness and lameness, the only difference being one of degree. Mrs. Rawnsley had operated the family dairy in Rose Valley long before appellee started operating at Longview (VI-1142). In 1945 she first came into close contact with the cows again. She then noticed how stiff the cattle were and that they were hard to get on their feet (VI-1146). This had not happened at Rose Valley (VI-1147). Mr. Rawnsley also noticed the stiffness (VI-1192) which disappeared when the cattle were taken away during the flood (VI-1166).

Mr. Whiteaker had some stiffness at Kalama, 10 miles from appellee's plant. Since the fall of 1948 the

animals walk slowly and shift from one foot to the other in the barn. Since the fall of 1952 these conditions have gotten worse (VI-1490).

Mr. Hester had a lot of trouble with lameness at Washougal (IV-369) which got better when he moved to Aurora, Oregon (away from appellee's Troutdale plant) (IV-372). Mr. Isbister encountered stiffness and soreness on the back part of the front feet (IV-479) and he identified by name certain animals so affected (IV-496, 497). Three of Mr. Seekins' seven present animals show some stiffness (IV-528) and he has noticed that the stiff animals are the last ones to come in for feed (IV-529).

Mr. Depoe in 1950 had three animals in such bad shape that they would stagger into a clover field, lie down, and graze as far as they could reach (IV-584). The animals were also stiff in 1948 and 1949. Mr. Stauffer had some stiff and lame cows with puffed up feet (IV-627), as did Mr. Baker (IV-674).

#### 4. *Scouring.*

Mr. Rawnsley reported serious scouring (diarrhea) conditions. He brought in some new cows in the fall of 1949. They made good records at first, but in 1950 they scoured on pasture and scoured on silage. When he took them off the silage, they improved in three or four days (VI-1166). As to the herd generally, it scoured badly (50%) in October, 1952, and in June, 1953 (VI-1177, 1206-7). On the June, 1953, scouring, milk production dropped 25% (VI-1206-7). He gets the scouring in per-

iods of heavy air from the direction of the Reynolds plant and it stops with heavy rain (VI-1177). On cross-examination Mr. Rawnsley said, "not this type", when asked whether scours didn't often concern dairymen (VI-1224).

The worst scouring the Whiteakers had ever had was in October, 1952 (VI-1487). It hit half the herd, production went down about 20%, and it persisted till they had a heavy rain. They had had scouring before (VI-1496).

Mr. Isbister said the scouring he had encountered was different from ordinary spring scours because his cattle got thin and dropped off in milk (IV-480). Mr. Seekins had had scouring in the pasture season other than in the spring (IV-528).

### 5. *Excess Culling.*

This is so clearly tied to Mr. Ross' testimony as to what a normal cull should be that the subject is dealt with as a part of the analysis of the Ross testimony in Section IV below.

### 6. *Miscellaneous.*

Several of the farmers reported that their cattle had trouble drinking cold water (*Rawnsley*, VI-1196; *Whiteaker*, VI-1466; *Depoe*, IV-586; *Stauffer*, IV-628; *Baker*, IV-675). Mr. Rawnsley still has the problem, but he has cut it down considerably by heating the water about 10 degrees (VI-1196). Failure to shed winter coats was a prominent feature of the farmers' testimony too

(*Rawnsley*, VI-1193; *Whiteaker*, VI-1487; *Hester*, IV-371; *Depoe*, IV-587-8). Messrs, Rawnsley and Hester reported that this condition improved when their cattle got away from fluorides (*Rawnsley*, VI-166; *Hester*, IV-372).

Mrs. Rawnsley reported that the cattle are smaller than they used to be (VI-1146). Her husband produced some weight slips (Ex. 600-D-1-A) to support his testimony (VI-1173) to the effect that his cattle were over 30% short in weight. He felt this was the most serious condition in the herd after 1950 (VI-1170). He showed a picture of a three-year old that he thought weighed only 55% of normal and was undersized (VI-1211). Mr. Whiteaker reported the same condition both as to weight and size and said the two-year olds are the worst (VI-1491-2). Mr. Hester's cattle didn't hold up in flesh while in Washougal (IV-369, 370) but they are all right in Aurora, Oregon (IV-372). The Isbister cows got thin (IV-480), as did Mr. Depoe's (IV-583, 587).

### **III THE LOSS OF MILK PRODUCTION AND THE EVIDENCE THEREOF.**

#### **(a) A Summary Statement of the Milk Loss**

As to the *Whiteaker* case, the Rawnsley and Whiteaker D.H.I.A. herd books were included in the Record on Appeal, respectively as Exhibits 600-C and 650-C. These books show production *actually attained*, fluorine or no fluorine. Experts, whose testimony is analyzed below, stated what the *production should have been under normal conditions*. The Rawnsley testing year is December

1 to November 30th, and the Whiteaker testing year is May 1 to April 30. With this background the following tables are self-explanatory.

### Rawnsley

Year Ending in	Normal Production	Actual Production	Loss per Cow	Cow Number	Actual Loss in Lbs. B.F.
1948		364.7		42.3	
1949		430.3		38.67	
1950		411.5		37.76	
1951	430*	374.8	55.2	29.92	1651.5
1952	467.5	381.1	86.4	30.58	2642.1
1953	485	354.2	130.8	38.08	4980.8
TOTAL B.F. LOSS					9274.5

### Whiteaker

Year Ending in	Normal Production	Actual Production	Loss per Cow	Cow Number	Actual Loss in Lbs. B.F.
1946		345.2		21.41	
1947		357.0		27.1	
1948		373.9		28.2	
1949		317.0		28.56	
1950		311.9		31.42	
1951	400*	307.0	93.	43.54	4049.2
1952	400	335.7	64.3	51.42	3306.3
1953	400	303.5	96.5	56.33	5435.8
TOTAL B.F. LOSS					12791.3

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\*The Rawnsley test year starts about the time of year that the complaint was filed, so the Rawnsley loss has been computed for the purpose of these tables to include the two years prior to filing; that is, starting 12/1/50. The loss is then continued through the year after the filing and up to trial. The Whiteakers' test year begins about six months prior to the filing date and their loss is figured beginning with their test year starting May 1, 1950. This is not quite accurate since the statute of limitations was held applicable prior to November, 1950. It is however, believed sufficiently accurate for purposes of this brief.

The loss of butterfat for the three years based on the above tables is for Rawnsley about 9300 pounds and for Whiteaker about 12,800 pounds. The milk vouchers for the two farms were included in the Record on Appeal (600-A, 650-A). They show that Rawnsley's actual butterfat sales ranged from \$1.35 to \$1.42 per pound within the period of limitations prior to filing, held applicable, and down to the start of the trial. Similarly, Whiteakers' price range was from \$1.32 to \$1.46.

We wish the Court to note particularly from the above tables that, if one measures the Rawnsley-Whiteaker loss solely by the difference between what they actually produced in their highest years (Rawnsley, 1949, Whiteaker, 1948) and what they actually produced thereafter, in other words, even if one disregards the expert testimony completely, the loss is still considerable. As detailed in the first two paragraphs of Sec. III (b) below, those highest actual years are the years in which the herds got the least fluorine.

As to the *Arvidson* case, Messrs. Hester, Stauffer and Baker are "Grade A" shippers, and Messrs. Isbister, Seekins and Depoe are "Grade C" or "factory milk" shippers. Milk slips and a record of the number of cows, butterfat produced and price received for all six of these appellants were included in the Record (the "A" and "C" series of exhibits as to each; see, for example, Hester—180-A, 180-C, I-222, II-vii). These documents show the amount of butterfat actually shipped each year within the period of limitations, prior to filing, held applicable, and down to the start of the trial. Based on the difference between what Mr. Ross (appellants' cattle

expert) said these appellants' cattle would produce under normal conditions and what they did produce, Mr. Hester has lost over 10,400 pounds B.F. in a period when his actual sales produced between \$1.01 and \$1.29 per pound. Mr. Stauffer has lost over 8,200 pounds and his price range was \$1.13 to \$1.41. Mr. Baker's loss in pounds is over 17,600 and his price range was \$1.11 to \$1.41. Mr. Isbister lost nearly 2,900 pounds at prices between 66 cents and 91 cents. Mr. Seekins' poundage loss was over 2,500 and his price range was 70 cents to 95 cents. Mr. Depoe's shortage in pounds is nearly 7,000 at prices between 58 cents and 82 cents.

**(b) The Physical Facts, Including the Documentary Evidence, in Support of the Lost Milk Production.**

We pointed out in Section III (a) above that in the fiscal year 12/1/48 - 11/30/49 the Rawnsley farm, as shown by the D.H.I.A. record book, produced 430 pounds B.F. on the average. Over six months before that year began, the herd stopped eating anything that could have been contaminated (VI-1167). Not until four months after that test year began did it consume home grown feed again (VI-1169). *Prior* to that year it consumed home grown feed and produced less and *after* that year it steadily declined (Sec. III (a)). The greatest *rate* of decline after the year 12/1/48 - 11/30/49 was in the year 12/1/52 - 11/30/53, (Sec. III (a)) and in that year appellee emitted 80% more fluorides than previously because it had expanded its production (VII-1673). This production performance is based on the physical facts alone, as shown by Mr. Rawnsley's testimony as to where the cattle were and what they ate.

The physical facts as to Whiteaker (Sec. (a) above) are that at Kalama, 10 miles from Reynolds, the herd average gradually increased from 345.2 butterfat for the year 5/1/45 - 4/30/46 to 357 butterfat for the year 5/1/46 - 4/1/47. The *rate* of increase went up at Kalama in the next year ending 4/30/48 *when the Reynolds plant was closed* and was 373.9. Then the herd moved next door to Reynolds *and the plant reopened*. There was an immediate decline of over 15% to 317. Except for the year 5/1/51 - 4/30/52, the herd production has stayed about that level. In the year just mentioned it went up from 307 to 335. It isn't hard to find the reason for that either. Mr. Whiteaker testified that starting in October, 1951, there was a substantial infusion of new blood in the herd (VI-1506, 7). When Reynolds substantially increased its production in the fall of 1952, thereby materially increasing the fluorides on the Whiteaker's grass, there was a decrease of 10% to 303 for the year 5/1/52 - 4/30/53 though only one-half of that year was affected by the increased fluorides (August 1952 - April 1953). 303 was the lowest the herd ever produced.

Concerning the Camas-Washougal area, the Hester production performance also clearly shows the connection between fluoride intake and butterfat production. Mr. Hester testified how many cows he had at Washougal and Aurora and his milk vouchers at both places are in the Record. He was at Washougal from June 1947 to September 1951 (IV-338) and has since lived in Aurora (IV-337). Mr. Hester's winter roughage at Washougal the first two winters he was there was substantially all home grown (IV-380, 407); and it was sub-

stantially all Goldendale hay thereafter. Of course, he was away from fluorides after September, 1951. For the first two years (beginning in each case in December) at Washougal, Mr. Hester's average production was steady and bad; it was about 210 pounds B.F. For the year December 1949 - 1950 it was about 285; and for the next year it was nearly 325 with the last one-third of the year at Aurora. In April 1952 the herd was hit with Bangs disease (IV-340) and the age of the herd at the time of trial was four to five years. At Washougal it had been six to seven years. (Mr. Ross (V-780) and Mr. Rawnsley (VI-1186) defined the term "mature equivalent" to the effect that young cows' production is adjusted to allow for their immaturity.) Despite the change in age, the Hester's production has remained at about 325.

#### **IV PLAINTIFFS' EXPERTS ON THE COW TROUBLES AND THE LOST MILK.**

So far we have attempted to show that appellants' cattle were injured substantially (a) because the cows had something wrong with them in fact; and (b) because the cows were producing less than they should have. On these two subjects appellants' experts corroborated appellants. They also did some observing of their own and formed certain opinions. Let us review their testimony.

Dr. Keller was the regular veterinarian for the *Arvidson* appellants from 1945 till he went into the Army in 1952. When he first got into the Camas area where the herds were, here's what he found:

"I moved to Camas-Washougal area as I have stated in the fall of 1945. Shortly after that through my own observations of the animals, through the complaints of the farmers, their troubles and just living with it, in the area, running a general practice, we became aware that there was some problem, acute problem in the area.

Q. What was the nature of the complaints you were told about?

A. The complaints and observations were of such things as the animals for production, the animals not producing as the farmers stated the way they should, and buying better bulls all the time. Buy better cows yet can't produce any milk; their heat cycles, the animal did not come in heat after freshening, therefore they do not, are not able to keep up what they call Grade A basic milking production as they should.

Q. Will you explain that a little?

A. Dairymen in selling milk is not just paid for all his milk at one price. He has what we call a basic. In other words, that is a minimum amount of milk he produces usually ascertained as to the minimum two months of any year. That is his basic and that is the way it is ascertained. In other words, what they are trying to get at is for a dairyman not to produce milk during the lush grass months, but rather keep a constant milking for the year around. Therefore, he gets a much higher price for what we call the basic amount of butterfat that he has and the rest of his milk goes for what we call a surplus or a price much less than his basic. Therefore, it is advantageous for him to have his cattle freshening at regular intervals the year around to keep up a constant and even milk flow. It benefits him very much financially.

Q. Go ahead, what other conditions were reported to you, if any were?

A. Conditions such as the heifers being stunted, not growing as they should even though they were grading them. Such things as that.

Of course by observation I observed teeth lesions, complaints, both from my personal observation and also the farmers' history, diarrhea in the animals. Also hoof complaints and observations of animals walking stiff, of animals' hoofs abnormally growing out and generally unhealthy and unthrifty condition of the dairy herds from men that I knew are good dairymen from being with them and seeing the way they are running their dairy farms." (III-245-247)

Dr. Keller investigated these complaints and soon concluded that the problem was fluorosis which he defined as follows:

"Q. Now Doctor, based on the investigation that you were telling us about and your study of this problem, can you advise the Court as to what the symptoms of fluorosis are in cattle?

A. In my opinion there are two distinct classes of symptoms of fluorine poisoning in cattle. One is the acute symptoms of fluorosis such as diarrhea, lack of appetite. Under acute you can put reduced milk production also. Rough hair coat, lameness, walking with a rather arch in their back. Also we have the symptoms of chronic fluorosis which are evidenced by mottling, staining, abnormal wear of the teeth, exostosis of the bones, elongated feet, and also lamenesses that are caused by permanent bone malformations or exostosis.

THE COURT: Is fluorosis a kind of a general term that refers to all kinds of disabilities that comes from fluorine, or is it limited to a certain kind? What does that word mean?

\* \* \*

A. Fluorosis is in my opinion a term, explanation of the term is the, is syndrom of both chronic and acute symptoms produced in cattle by the ingestion of fluorine compounds." (III-250-251)

He continued to work on the problem. In 1950 he extensively surveyed areas around aluminum plants and away from them with another veterinarian; he found no symptoms in the outside areas. Based on seven years' histories as to the Camas area plus his observations of the teeth and condition of the cattle, Dr. Keller testified that the *Arvidson* herds had fluorosis as of the time he was testifying and earlier. He felt sure that the Hester cattle were in much better shape when he saw them in Aurora, Oregon, than they had been at Washougal (III-271). Fluorosis was present in the *Whiteaker* herds also as of November 1953, said Dr. Keller. These latter herds he had seen but once, but, of course, he had his general background to aid in diagnosis.

Dr. Guard had seen the *Arvidson* herds but once, but he had been the regular veterinarian for the *Whiteaker* plaintiffs since 1946. As to the *Arvidson* herds, Dr. Guard did not see Hester's or Stauffer's and he was unwilling to make a diagnosis of the Norelius, Johnston and Ray Arvidson herds because the tooth picture was inconclusive and he did not have the histories (VII-1780, 1784, 1785).

Dr. Guard had not only been the regular veterinarian for the *Whiteaker* herds; he had examined 100 herds in the Longview area for fluorosis (VII-1747), including some for appellee (VII-1786). On cross-examination, he said he thought all 100 herds were affected by fluorosis except those protected by a hill between them and the Reynolds plant (VII-1805). In the summer of 1953 he saw three herds in the Longview area and located near the Rawnsley, Goldsmith and Josephson places. He

named the owners and at that point in his testimony generalized to say that in his opinion the herds *are worse now (1953) than they were a couple of years ago (VII-1760)*. Dr. Guard was in general agreement with Dr. Keller's definition of fluorosis (VII-1748).

Probably the sharpest area of conflict between Drs. Keller and Guard on the one hand and appellee's veterinarians on the other is that Drs. Keller and Guard believed that cows were necessarily injured systemically (i.e., for example, they were producing less milk than they should) if there were fluorine stains on their teeth. On cross-examination Dr. Keller put it this way:

"Q. Is it conceivable that this condition where teeth are stained can be characterized just as a cosmetic matter, that is, just a matter of appearance and nothing else from the standpoint of the animal's wellbeing?

A. I don't understand your meaning of cosmetic there.

Q. Is it possible to have stained teeth without skeletal or systemic damage to the animal, that is, without these other symptoms that you referred to?

A. In my opinion, no on acute fluorosis.

Q. In other words, you would state that wherever you had stained teeth it would mean that there would be some other damage to the animal?

A. Where you have the chronic symptoms of fluorosis I believe that there is an internal damage also. If the animal is taken out of the area, then the acute symptoms probably and will most of them not be evident.

Q. Is it possible to have damage—is it possible to just have the stained teeth without any other impact upon the animal physically?

A. In my opinion when the animal has ingested enough fluorine to stain the teeth there is very, very great internal and systemic damage." (III-311-312)

On direct examination, particularly with reference to the Goldsmith (VII-1770) and Ford (VII-1779) herds, Dr. Guard corroborated Dr. Keller. Dr. Guard's opinion was that if some animals in a herd showed fluorine stains on the teeth, the milk production of the *herd* was affected. He made this very clear on cross-examination as follows:

"Q. (Continuing) Dr. Guard, I now refer to your statement with reference to the damaging effect of fluorosis on the herd as to its—strike that out. You recall testifying, Dr. Guard, before noon recess that if you find fluorosis in some of the cows of a particular herd you diagnose the entire herd as being damaged by fluorosis, is that correct?

A. I have always made that assumption, yes.

Q. And under those circumstances that herd has no value as a dairy herd in that place; you recall saying that?

A. I will qualify it to say a profitable dairy herd." (VII-1826)

In support of Dr. Keller's and Dr. Guard's opinions, it is worth pointing out that Dr. Guard, upon a routine post mortem examination of a Rawnsley cow, had discovered considerable kidney damage and completely destroyed gland tissue (VII-1839). Dr. Guard also considered, in his testimony, the physical fact that the *Whiteaker* herds had fallen off considerably since the fall of 1952 when Reynolds started putting out 80% more fluorides than formerly (VII-1673). He said:

"Q. Doctor, there is evidence in this lawsuit that those four herds that you have been taking care of in Longview since 1946 have fallen off very considerably in their milk production beginning last fall. Those are the figures I read you this morning. In the light of that fact, which is in evidence here,

what have you to say as to economic damage to those animals?

A. Well, that is why I have drawn my conclusions that when their ingestion of poison which affects metabolism so severely and the first symptoms that a cow shows whether it is fluorine poisoning or too much apples, they drop in the milk production. I mean that is one of the first symptoms that an animal takes in something abnormal to her system before they even have time to bother the teeth, would make her drop in milk production.

Q. *In other words, the first thing that happens when a cow gets sick is that she loses milk?*

A. Right." (VII-1836-37, emphasis supplied)

It was also Dr. Chapman's view (for appellee) that loss of milk production was the first characteristic of a sick cow (VIII-2134-35).

As pointed out in Section V below, defendant's three veterinarians' views to the contrary of the views expressed by Drs. Keller and Guard have considerably less support in the transcript. Other things being equal, they did not see the cows nearly as often, they had no histories to work from, they took no production records into consideration and they conducted no post-mortems.

Rex Ross was appellants' cattle expert. Appellee apparently could find no witness to rebut what he said. Mr. Ross gave his opinion as to what all eight dairy farms (except Mr. Rawnsley's) would produce under normal conditions and he also said what their culling rates would be under normal circumstances.

As to the weight of his testimony, Mr. Ross has imported some 60 Jersey cattle which sold here from \$1800 to \$5000. When he first bought cattle on the Island of

Jersey there wasn't much available in the way of production records, and so he judged production solely on conformation (and, at average prices, he bet \$180,000 on that judgment) (V-771). Testifying in Tacoma, Mr. Ross said on cross-examination that he did not rely on, or even consult, production records even where they were available in buying cows for his own herd (VII-1569-70).

Mr. Ross is frequently a judge at stock shows (V-772); he was president of a milk distributing outfit for 10 years (V-773); and he was President of the Oregon Jersey Cattle Club for two years. He frequently buys cows for commercial operators (V-775).

With this background, particularly with his experience in buying cattle by eye alone, it is not surprising that Mr. Ross was able to state what production would be obtained under normal conditions as to the *Arvidson* herds though he saw them only in 1951 and in 1953 and to state what normal production would be as to the *Whiteaker* herds (except Rawnsley's) though he saw them only in 1953. His normals were based not only on the cattle themselves, but on the manner in which they were cared for, what they were fed, etc. (See, for example, his discussion of the Isbister herd (V-785-790).) The fact that Mr. Ross did not know what the *Arvidson* herds were actually producing before he saw them (V-814) nor before he testified (V-834) is additional evidence of his ability to judge production by eye alone. The approximate result of the difference, in terms of lost butterfat, between Mr. Ross' normal production

and actual production is summarily stated in Section III(a) above.

Further support for Mr. Ross' normals lies in the Whiteaker settlement story. Normal at that farm would be 400 pounds B.F., Mr. Ross said (VII-1550). When Reynolds settled with the Whiteakers up to November 1948, they were allowed 20% in addition to actual production for the three prior fiscal years (VI-1474). Those three years average 358.7 (Section III(a)) and *only one of those years was a non-fluorine year* (Section III(b)). 358.7 plus 20% equals 430.4.

Mr. Ross also testified what normal culling ought to be. Mr. Isbister's should be 10 to 15%; Mr. Stauffer's, 18 to 20%, and Mr. Baker's 15 to 18% (V-819, 821). Mr. Isbister was raising two to three heifers per year (IV-485) for a herd averaging 7.1 cows (IV-473). This is a culling rate of about 35%. Mr. Stauffer has had 27 cows on the average beginning in 1948 (IV-660). He raises seven to 10 heifers per year which are not enough to keep the herd going (IV-627). This is a cull of over 32%. Mr. Baker has averaged 28 cows (IV-671); he raises six to eight heifers per year (IV-675) for a cull of 25%.

Finally with respect to Mr. Ross' testimony, he had occasion to see the Hester cattle several times after they were moved to Aurora. They are in better shape now than when he first saw them in 1951 after the move from Washougal (V-818). In seeing appellants' cattle, Mr. Ross saw quite a lot of scouring and rough hair coats (V-825). He also saw some stiffness in the herds

and he mentioned the Depoe herd in this connection. Mr. Ross corroborated Mr. Rawnsley in general as to the duration of a normal lactation (V-830).

Mr. Coie was the Manager of Evergreen Breeders, an artificial insemination organization. Sires from Evergreen have been used in the Rawnsley herd since 1947. Beginning in 1952, the Evergreen producing daughters constituted the majority of the herd and in 1953 strongly predominated (VI-1279). As of the time he was testifying, Mr. Coie felt normal production of the Rawnsley herd would be 485 B.F. (VI-1279) which is only 55 pounds more than it did do (without Evergreen) in the fiscal year ending in 1949. In that year the herd had been subjected to the least amount of fluorine in any year for which records are available (Sec. III(a)). Exhibit 914 shows the high quality of the Evergreen bulls used at the Rawnsley place. One, for example, used on farms other than Rawnsley's, increased the daughters' production over their dams by 64 pounds B.F. (VI-1266). Clearly this confirms the reasonableness of Mr. Coie's normal.

Mr. Coie was thoroughly familiar with the Rawnsley farm and the Rawnsley cows. He had been on the farm from time to time over the last 10 years (VI-1260). He also was familiar with what fluorosis cows looked like, having seen them when he was County Agent for Clark County in 1942-1946 (VI-1258). In going over the Rawnsley farm he had observed the quality and amount of the roughage grown there and thought the place would carry 50-60 cows and their replacements

(it has averaged about 36 cows for the last six years (Sec. III(a)). He had seen Mr. Rawnsley feed his cows and thought he fed good quality feed liberally (VI-1271). He took these factors into consideration in estimating normal production (VI-1279).

Mr. Coie was on the place in June, 1953. He thought (as did Mr. Rawnsley) that the cattle were 30% under-size; that they were stiff, thin and long haired and that the calves were a disgrace (VI-1283). On cross-examination, Mr. Coie said he knew how the cattle were fed because he had studied the feed records (VI-1293).

Dr. A. O. Shaw, Chairman of the Department of Dairy Science at Washington State, is a specialist in the nutrition of dairy cattle. He had prepared an exhibit (915-332) which showed how much nutrients it took to produce various amounts of milk. This exhibit was received without objection (VIII-2151). Dr. Shaw had visited six of the eight farms discussed in this brief. On the witness stand he was informed what Messrs. Rawnsley, Josephson and Goldsmith fed their cattle and he testified that what they fed was enough to maintain body weight and make the normal production the cattle experts had testified to (VIII-2163-2166). At that point the following stipulation was entered into:

“MR. CRONAN: Your Honor, I believe it may be stipulated between myself and counsel for the defendant that the witness, Dr. Shaw, has familiarized himself with the amounts of feed fed by the farmers in each of the cases now being tried and that his opinion would be if asked, that that level of feed intake is sufficient to support the production on the average per cow in each herd in litigation

under normal circumstances as that production is defined under normal circumstances in this record.

THE COURT: To which the defendant stipulates that the witness would so testify, and you want your reservation of your objection to it on the grounds that you already stated, namely speculative and so forth, is that right?

MR. YERKE: Yes, and also, of course, your Honor, the additional objection that the hypothetical question fails to take into consideration the age and breeds of the animals involved.

THE COURT: As I understand it, the matters that may be assumed by the witness are basically the same matters obtained by Mr. Ross by way of hypothesis when he testified what he considered normal production under normal circumstances.

MR. CRONAN: Yes.

MR. YERKE: All right.

MR. CRONAN: Also the normal levels are those testified to by Mr. Ross.

THE COURT: Very well. The objection will be overruled and the stipulation will be received and I will then understand from this that the witness now on the stand would, if he were taken through each of the several herds, testify that in his opinion the quantity of feed referred to in the testimony of the several claimants for plaintiffs would produce the quantity of butterfat per cow per herd per year that has been put into the record by the witness Ross and witness Coie, correct?

MR. CRONAN: Correct, your Honor." (VIII-2168-2170)

Dr. Cheldelin's testimony concluded the trial. He is an Oregon State College bio-chemist. He has done research work with *organic* and *inorganic* fluorides which involved taking the enzyme systems out of animals and studying their behavior as they oxidize glucose in the presence of both types of fluorides (IX-2516). Although

an aluminum plant discharges inorganic fluorides, his opinion was that the grasses with which they come in contact would convert some of them into organic fluorides (IX-2518), and that the organic fluoride which would be the most likely product is fluoro-acetate (IX-2524). Dr. Cheldelin has personally experimented on animal tissue with fluoro-acetate and sodium fluoride (as indicated in Sec. V below, appellee's experts used the latter exclusively) (IX-2525). Dr. Cheldelin explained that sodium fluoride will block the conversion of starch, but not fat or protein so that it takes a lot more sodium fluoride to have a lethal effect upon an animal (IX-2528). On larger animals, from a visual standpoint, sodium fluoride will cause a discoloration of the teeth, but fluoro-acetate will cause a reduction in the rate of metabolic processes (IX-2531). A cow receiving a sublethal dose of fluoro-acetate would accordingly lose milk production as an *early effect*. 1 ppm in the forage of a 1200-pound cow would be enough to cause severely toxic effects, if not death (IX-2535). Dr. Cheldelin was asked to comment on the relation between feeding sodium fluoride at rates from 7 to 75 ppm (appellee's experts' experiments) and the feeding of forage which had been exposed to hydrofluoric acid and cryolite from an aluminum plant. He saw no connection between the two, although the sodium fluoride feeding would demonstrate the effect of sodium fluoride (IX-2534).

We grant that Dr. Cheldelin had never extracted fluoro-acetate from grass growing around an aluminum plant. He had experimented with fluoro-acetate, though, and knew its effects. In view of the unquestionable fact

that plaintiffs' cattle produced less with Reynolds' fluorine (Section III) than without it, is not Dr. Cheldelin's view that they were eating something having a different effect than sodium fluoride more reasonable than the opinion for appellee that they were eating the equivalent of sodium fluoride?

#### **V COMMENTS ON THE DEFENSE AT THE TRIAL.**

Appellee took the unqualified position that no farmer had suffered any loss in his operation that was connected with or attributable to Reynolds' operations. Speaking generally, appellee produced, in support of this proposition, Drs. Phillips and Schmidt who never saw any of the cattle, but who were conducting admittedly uncompleted experiments, respectively in Wisconsin and California. These experiments were being carried on for the purpose of showing that milk cows fed *sodium fluoride* for the first time *after* they reached maturity at levels in excess of the fluoride levels to which appellants' cows were subjected, suffered no damage. This, of course, assumes that sodium fluoride has the same effect as fluorides from an aluminum plant. Whatever the effect of sodium fluoride upon milk cows may be, Section III(b) of this brief indicates from the physical facts in evidence alone that fluorides from an aluminum plant do cause a loss in milk production. Moreover, Dr. Cheldelin's testimony reviewed just above in Section IV raises at least a very considerable doubt that the cattle were consuming the equivalent of sodium fluoride.

Appellee also produced three veterinarians, Drs. Garlick, Phelps and Chapman. Dr. Garlick saw the *Arvidson*

herds once in 1951 and the *Whiteaker* herds once in 1952. Dr. Phelps saw the *Arvidson* herds in 1951 with Dr. Garlick; and he saw them again late in the summer and fall of 1953. Dr. Phelps saw the *Whiteaker* herds in the summer and fall of 1953 as did Dr. Chapman. Dr. Chapman also saw the *Arvidson* herds in the summer and fall of 1953 with Dr. Phelps. Some of these herds were seen several times by one or more of the veterinarians. Substantially, though, Drs. Phelps and Chapman saw the *Arvidson* and *Whiteaker* herds just before trial; Drs. Garlick and Phelps saw the *Arvidson* herds two years earlier in 1951; and Dr. Garlick saw the *Whiteaker* herds late in 1952.

With one or two exceptions not worth mentioning, the veterinarians who saw the cattle for appellee saw nothing wrong with them when they were there and inferred there had been no economic damage. With the exception of Dr. Garlick, who looked into the *Whiteakers'* milk production once early in 1951, nobody testified for appellee as to whether the actual milk production was more, less or about the same as it should have been. All of appellants' production records in both cases were available to appellee before trial; in fact, the *Whiteaker* plaintiffs' herd books are still marked as deposition exhibits.

We think the reason nobody testified for appellee as to how close the actual production was to what it should have been is because the production records would not stand analysis and appellee knew it. Instead of producing cattle experts, appellee relied on the admittedly incomplete experimental work of Drs. Phillips and Schmidt

and the three veterinarians. The three veterinarians had done no experimental work of their own relating fluorine intake to butterfat loss. They nevertheless took the position that there couldn't have been any butterfat loss because the degree of tooth damage was too slight to warrant it. In so concluding, they were obviously relying on the incomplete experimental work of Drs. Phillips and Schmidt.

This incomplete experimental-seldom seen cattle defense prevailed in the trial Court. Obviously the trial Court gave more weight to it than to (a) observations of dairymen who had operated in and out of fluorine conditions for as long as 40 years, (b) the physical facts clearly showing that there was a butterfat loss, and (c) plaintiff's experts. The trial Court particularly relied on Drs. Phillips and Schmidt (I-93-4).

No invidious comparison is here intended between the experts on the two sides. Other things being equal, however, it is pretty clear that Drs. Keller and Guard were in a better position to diagnose the presence or absence of fluorosis in appellants' cattle than were Drs. Garlick, Phelps and Chapman. Starting about eight years before the trial, Drs. Keller and Guard were the regular veterinarians for appellants' herds. Accordingly, they were in a much better position than appellee's veterinarians to observe and they did observe the abnormalities of which the farmers complained.

Appellants' cattle expert, Mr. Ross, was qualified to judge production based solely on observation. As we have seen, he bought cattle without considering produc-

tion records either because there weren't any or, if there were, because he didn't think it was necessary. He testified what appellants' cows (except the Rawnsley cows) would produce under normal conditions. Mr. Coie, speaking from his personal knowledge of the sires used in the Rawnsley herd and his personal knowledge of the farm, testified as to those cows' normal production. Dr. Shaw, a clearly qualified nutrition expert, testified that what the farmers said they fed was enough to maintain body weight and the normal production testified to by Messrs. Ross and Coie. Appellant *made no effort whatever to rebut any of the testimony referred to in this paragraph.*

Dr. Cheldelin did not disagree with the sodium fluoride work of Drs. Phillips and Schmidt. He did, however, testify that what the cattle were eating was not the equivalent of sodium fluoride.

We shall close our remarks on the trial defense by commenting briefly on the testimony of Drs. Garlick, Phelps and Chapman.

Dr. Garlick was not unfamiliar with the complaints voiced by the farmers in the present cases. When he was in private practice in Tacoma, Washington, he was the regular veterinarian for the Eschbach herd which is near the Tacoma aluminum plant. In 1942 here's what he observed wrong with the Eschbach herd:

"A. Well, when the animals become ill the first thing I noticed was, in the Eschbach herd of course, and that was a lameness, very acute lameness in the front feet particularly inside claws of the front feet, and that lameness interfered with the ability of the

animals to forage. There was a concurrent loss in the body weight. There was a deterioration of the animal as far as general health was concerned.

It showed such known specific symptoms as rough hair coat. Those animals that were down and could not walk around did not wear back their feet properly and so the—the toes had a tendency to grow out. There was a drop in milk production in that herd.” (VII-1859-60)

Dr. Garlick later testified that slight mottling of teeth could occur without the occurrence of any of the Eschbach symptoms, which symptoms he described as “systemic”. However, what level of fluorides the Eschbach herd encountered and what the condition of their teeth was, Dr. Garlick did not say.

When Dr. Garlick saw the Depoe (one of appellants) herd he took some pictures of some animals with an odd stance. He commented on the pictures at the trial and said the trouble was osteomalacia, not fluorosis. He distinguished between the two on cross-examination as follows:

“Q. You have seen many cows that had fluorosis that had exactly that same gait and same stance, haven’t you?

A. No, I have not. There is a difference because *in fluorosis animals the tenderness is very acute in the front feet* and an animal that has fluorosis will generally go down on her knees or stand with her legs doubled forward, her front legs doubled forward and trying to take as much weight off as possible over those front legs rather than trying to evenly distribute it over the four.” (VII-1873, emphasis supplied.)

Mr. Isbister encountered precisely this difficulty with the front feet of his animals (IV-479).

Dr. Garlick saw the production results in the Whiteaker herd book in May, 1951 (VIII-1919). At that time he also saw the animals in the field but he did not look at any teeth although he knew flourine might have been a problem in May, 1951, because the herd was in a fluorine area (VIII-1956). Based upon Dr. Garlick's field observation in May, 1951 and his study of the herd book at that time, he concluded that an adequate production level would be 365 B.F. on the average ("approximately a pound of butterfat per day" (VIII-1958)). When Dr. Garlick saw the herd book, the herd had just completed the year 5/1/50 - 4/30/51 and was doing 307 (Sec. III (a)). Sterility accounted for its failure to do 365, according to Dr. Garlick. He didn't know the reason for the sterility (VIII-1921).

The diagnosis of sterility begs the question, we think. Among other difficulties reported by the farmers to Dr. Keller when he first got to the Camas-Washougal area in 1945 were disturbed heat (oestrus) cycles in the cows (III-245-6). On cross-examination of Dr. Garlick the following occurred:

"Q. Dr. Garlick, are you familiar with this Bulletin 123, Research Bulletin 123, October 1934, Agricultural Experiment Station of the University of Wisconsin, "Chronic Toxicosis in Dairy Cows Due to the Ingestion of Fluorine" by Paul H. Phillips, E. B. Hart and G. Bohstedt?

A. I am.

Q. Would you agree or disagree with this statement under the summary and conclusions on page 28, conclusion three:

'Fluorine in the ration of dairy cows does not cause a functional failure of the reproductive

processes, but it does delay oestrus following parturition and lowers the birth rate of newborn calves. The nutritional state of the animals suffering from chronic fluorosis is thought to be responsible for these results.'

Do you agree?

A. I agree that Dr. Phillips is recording his observation. However, I have not observed it in my observations and the other workers who have observed it in regions of the aluminum plants have not observed the condition." (VIII-1959-60)

While Dr. Garlick does not agree with the above quotation from Dr. Phillips, and Dr. Phillips himself has now considerably limited it, Dr. Garlick is still confronted with the other Whiteaker D.H.I.A. results. Since there is a variation of 303 to 373.9 in the Whiteaker annual results and since Dr. Garlick thought 365 would be normal, it is evident, if the 365 is correct, that sterility has not always been a problem. If the herd had a sterility problem at 307 average production in May 1951, why was it at 303 in May 1953? Was there still a sterility problem? And if there was, why is it that the herd went up from 307 to 335 in the year after Dr. Garlick looked at the herd book? When Dr. Garlick saw the herd in December, 1952, the herd book, which he did not then look at (VIII-1976), showed 335 as of 4/30/52. At that stage Dr. Garlick, had he looked at the book, might have thought he had been right about sterility in 1951 since the herd production was up 10% and since there had been a considerable infusion of new blood in the herd beginning October 1951. How would he feel about this though, in view of the fact that the herd again plunged to 303 in the year ending 4/30/53? If Dr. Gar-

lick had really been trying to diagnose the herd, would he not have informed himself a little better? Had he done so, we think he would have discovered that the only real variable in the Whiteaker situation (Sec. III(b)) is the amount of fluorides consumed by the herd.

It will also be recalled that Dr. Garlick did not see the *Arvidson* herds after the summer of 1951 nor the *Whiteaker* herds after December 1952. No fluorine changes take place in the teeth after the bud stage (when the tooth can't be seen), Dr. Garlick informed the Court (VIII-1948). Dr. Garlick did not say how long the bud stage was, but Dr. Phelps said it was six months (VIII-1947). Even after the tooth emerges from the gum, Dr. Garlick can't tell about exposure to fluorine till the cuticle wears off (VII-1861). Dr. Garlick's knowledge of fluorosis in *Arvidson*, when he testified, therefore, was not more up to date than three years earlier. Since he saw the *Whiteaker* herds only in December 1952, he could have seen nothing on the teeth with respect to Reynolds' 80% increase in fluoride discharge which took place in August 1952.

On cross-examination Dr. Phelps made it very clear that when he was talking about "fluorosis" he was describing the point where there is "systemic damage" to the animal (IX-2325). On direct, he had said that cows could have mottled teeth without fluorosis. On cross he went on to say that until the "systemic" stage was reached, there was no loss in milk production (IX-2347). Dr. Phelps had found no "systemic" damage on such visits as he made for this litigation. Nor had he when testifying on at least two, and possibly three, previous occa-

sions (IX-2361-3). However, when participating in settling claims for Reynolds, Dr. Phelps' attitude was somewhat different. He admitted on cross-examination that when he made a report for Reynolds in connection with the Whiteaker release, the animals had not been systemically injured (IX-2336). In connection with the Rawnsley release, five cows were systemically injured (IX-2341). Others had mottled teeth and were not systemically injured (IX-2343). No animals were systemically injured when Goldsmith's claim was settled (IX-2346). Dr. Phelps finally admitted that in connection with these releases he had determined the difference between normal and salvage values in all cases where there was *any* mottling (IX-2343) and that the reason this was done was because we (meaning Reynolds and himself (IX-2344)) " . . . were probably going overboard a little bit . . . " (IX-2343). Dr. Phelps does not go overboard in litigation.

Dr. Chapman has changed his opinion somewhat too. At the trial he made it clear that when he was talking about "fluorosis" he meant damage (VIII-2115). He said on cross-examination that the first symptom of fluorosis was mottling of the teeth (VIII-2123). In connection with that statement, there was read to Dr. Chapman an extract from an article written by him when he was employed by Oregon State College to make a survey of fluorosis. The extract and the surrounding colloquy was:

"Q. What do you consider the first symptoms of fluorosis in dairy cattle?

A. I think the *first thing I notice will be mottling of the teeth.*

Q. Would you agree with this statement [from the Chapman article]:

‘Symptoms develop slowly and are *most noticeable in lactating cows*. *Early symptoms* are decreased food consumption, *decreased lactation*, intermittent diarrhea and general loss of condition and appetite. *As the diet progresses there may be changes in bones and teeth.*’

Would you agree with that?

A. No.

Q. Would you agree with this statement:-

A. I got my sequence mixed up.

‘Young animals make a poor growth and often appear to be suffering—’

THE COURT: Excuse me, just a minute. What did you say there?

THE WITNESS: The sequence.

THE COURT: Oh, the sequence of the symptoms?

THE WITNESS: Of the symptoms.

THE COURT: I see.

Q. (Continuing) You changed your mind as to that?

A. That is right.” (VIII-2123-24, emphasis supplied.)

Later, on recross-examination, Dr. Chapman made it pretty clear that his sequence was right when he wrote the article. He said:

“Q. Any little thing upsets their milk production, don’t it?

A. Yes, practically anything that would upset it, upset her normal eating or even disturbance, *just examining the cattle will upset the milk production slightly.*

Q. Sure, depending on the degree? On the other hand, if some farmer called you some night and tells you he has got a sick cow, it is quite the common practice among veterinarians to ask, ‘Well,

how much is she off on her milk production?’

A. One of the first things you ask.

Q. One of the first things you ask?

A. That is right.

Q. And if she isn’t off on her production very much you don’t consider it too terribly serious?

A. I will think she will wait until morning, and if they don’t get any, I say, ‘Well, it is too late to autopsy.’ (Laughter)

Q. It doesn’t take very much to throw her off milk production, does it?

A. Well, *it doesn’t take any marked change to alter the milk production of a cow.*” (VIII-2134-35, emphasis supplied.)

Earlier in this portion of our brief (p. 77) we noted that appellee’s defense at the trial was an incomplete experimental-seldom seen cattle defense. We also pointed out that appellee’s veterinarians, who saw the cattle but little, were basing their conclusions that the cattle couldn’t have been injured on the incomplete experiments of Drs. Phillips and Schmidt who had not seen the cattle at all. While appellants produced some experts also, the trial presented no mere battle of experts. Supporting appellants’ experts were the personal day by day observations of appellants themselves whose testimony showed a remarkable consistency as to the type of injuries suffered by their cattle (Point II, Sec. I) and the physical facts including the documentary evidence (Point II, Sec. III (b)) showing that there really was a milk loss.

The defense was solely and completely an expert defense. In 32 C.J.S., Evidence at p. 393, §569 appears this statement: “. . . courts of the highest eminence . . . feel that experts are frequently rather the hired advo-

cates of the parties than men of science placing their special experience at the service of the cause of justice . . . ” A recent opinion of the Oregon Supreme Court is to the same effect. In *Oxley v. Linnton Plywood Ass'n*, 60 Ore. Adv. Sh. 1027 at p. 1049 (May 25, 1955), the Court observed: “ . . . The cruiser testifies as an expert witness, and his testimony, like that of all expert witnesses, is viewed with some suspicion . . . ”

### POINT III

#### **The Washington Law of Limitations as to Real and Personal Properties and the Washington Substantive Law of Trespass.**

##### **A. Rulings of the Trial Court.**

##### **B. The Washington Law of Limitations and of Substantive Law concerning Trespass to Real Property.**

Revised Code of Washington (R.C.W.) 4.16.080 (1);

*Suter v. Wenatchee Water Power Co.*, 35 Wash. 1, 76 Pac. 298;

*Weller v. Snoqualmie Falls Lbr. Co.*, 155 Wash. 526, 285 Pac. 446;

*Riblet v. Spokane-Portland Cement Co.*, 41 Wn. (2d) 249, 248 P. (2d) 380;

*Welch v. Seattle & Montana R. Co.*, 56 Wash., 97, Pac. ;

*Gray v. Harris & Son*, 200 Wash. 181, 93 P. (2d) 385;

*Clark Lloyd Lum. Co. v. Puget Sound & C.R. Co.*, 92 Wash. 601, Pac. ;

I Restatement of the Law of Torts, Sec. 158;

*Ure v. United States*, 93 F. Supp. 779, aff'd sub nom *White v. U. S.* (CA9) 193 F. (2d) 505;  
*Kerr, et al., and McCallister, et al. v. Reynolds Metals Company*;  
 87 C.J.S., Trespass, Sec. 13;  
 52 Am. Jur., Trespass, Sec. 12, p. 844.

### **C. The Washington Limitations Law as to Personalty.**

Revised Code of Washington (R.C.W.) 4.16.080;  
 Revised Code of Washington (R.C.W.) 4.16.130;  
*Northern Grain & Warehouse Co. v. Holst*, 95 Wash., 312, 163 Pac. 775;  
*Clark Lloyd Lbr. Co. v. Puget Sound & Cascade Ry. Co.*, 92 Wash. 601, 159 Pac. 774;  
*Irwin v. J. K. Lumber Co.*, 119 Wash. 158, 205 Pac. 424;  
*Constable v. John P. Duke*, 144 Wash. 263; 257 Pac. 637;  
*Noble v. Martin*, 191 Wash. 38, 70 P. (2d) 1064;  
*Luellen v. Aberdeen*, 20 Wn. (2d) 594, 148 P. (2d) 849;  
 Revised Code of Washington (R.C.W. 4.16.080 (2).

#### **A. Rulings of the Trial Court**

Before citing and discussing the authorities, including the Washington authorities, on the substantive law of trespass, and on the Washington law of limitations as to realty and personalty, we want to point out to the Court that these questions were before the trial Court several times. The trespass point first was presented to Judge James Alger Fee, sitting in Tacoma, Washington, upon appellee's motion to transfer the *Arvidson* case from the Western District of Washington, Southern Division, where it was filed, to the District of Oregon. In

an opinion reported in 107 F. Supp. 51, Judge Fee, after analyzing the complaint, denied transfer principally on the ground, as noted in the trial Court's decision (I-96), that an Oregon court would lack jurisdiction over a foreign trespass upon real property because the Oregon Supreme Court had so held.

What Washington period of limitations applied as to both realty and personalty came before the trial Court upon appellee's motion before trial. The trial Court by the trial Judge handed down an informal memorandum and entered orders (I-12, 138) before trial providing that the real and personal properties claims set forth in both complaints were limited by the Washington two-year statute of limitations.

Finally, both trespass and Washington limitations as to realty and personalty in both actions came up on the evidence after trial and was dealt with extensively in the trial Court's decision. The Court quoted from its informal memorandum on the limitations point in again ruling that the two-year statute applied to the claims for damages both to real and personal properties. As to realty, the Court first held that Judge Fee's ruling denying removal was not a ruling on the Washington law (I-96). The Court then applied its own view of the Washington law both as to limitations (I-97) and as to the substantive law (I-99) concluding for both purposes that the actions were trespass on the case actions and not actions in trespass. In so ruling the Court relied principally upon *Suter v. Wenatchee Water Power Co.*, 35 Wash. 1, 76 Pac. 298. The Court recognized that " . . . In all probability some areas in the near vicinity

of the plants receive deposits of particulates or solids in a minute and powdery form . . . ” (I-92). Nevertheless, the Court held that where the claimed injury is direct, trespass lies; but in the cases at bar, the injury, if any, was indirect and the actions were therefore trespass on the case actions (I-99-100). After explaining that the Washington cases, especially the *Suter* case required this distinction, the Court concluded:

“ . . . Even though it were assumed that solids in the form of minute particulates from defendant’s plants have been deposited on plaintiffs’ lands, the injury, if any, resulting therefrom was consequential, the action is on the case, and awards of nominal damages would not be justified by the facts or required by the law.” (I-100)

This quotation plus the Court’s reliance on the *Suter* opinion (which involved a negligence case) is fundamental to the Court’s conclusion that a trespass was not made out as a matter of law. The Court’s view was that the deposits of solids is not enough. There must not only be injury, but direct injury. Our view, on the contrary, is that in a trespass case damages are *presumed* from the breaking (the deposit of solids) of the close: actual damages which are the damages the Court appears to have been discussing, have nothing to do with a trespass case. As we shall see, courts generally, including the Washington Supreme Court, have regularly so held.

In its decision the trial Court again dealt with the limitations point as to personalty. The Court quoted the three year Washington statute expressly dealing with personal property (I-97) but held that it did not apply. It held instead that the two year statute applied and

said this result was "inescapable" (I-97) under six Washington Supreme Court cases which it cited (I-98) but did not analyze at all.

**B. The Washington Law of Limitations and of Substantive Law concerning Trespass to Real Property**

In taking up the law of limitations and the substantive law of trespass upon real property together, we recognize, as did the trial Court, that the two questions are connected. They are connected because the three year Washington limitations statute (R.C.W. 4.16.080 (1)) specifically covers such actions. It reads so far as presently applicable:

"Within three years:

"1. An action for waste or trespass upon real property; \* \* \* ."

In holding that this three year statute did not apply, the trial Court cited only *Suter v. Wenatchee Water Power Co.*, 35 Wash. 1, 76 Pac. 298; *Weller v. Snoqualmie Falls Lbr. Co.*, 155 Wash. 526, 285 Pac. 446, and *Riblet v. Spokane-Portland Cement Co.*, 41 Wn. (2d) 249, 248 P. (2d) 380 (I-97-98). None of these three cases was pleaded in trespass. The *Suter* case was pleaded in negligence and the *Weller* and *Riblet* cases were pleaded in nuisance. Because of these pleadings, it is difficult to see how the trespass statute could have been held applicable.

The facts in the *Suter* case were that defendant had constructed an irrigation canal. The complaint alleged that the canal had been negligently constructed so that surplus water escaped and flowed over plaintiffs' lands.

A demurrer to this complaint on the ground that the acts complained of occurred more than two years prior to filing was overruled in the trial court. The Supreme Court of Washington reversed. It held that the three year trespass statute did not apply and that the two year statute did. It said the acts complained of did not constitute a trespass. It noted that the theory of the complaint was negligence. In so doing it noted that the original construction of the canal was lawful, if negligent. Therefore any damage to plaintiffs was an indirect consequence of a lawful act. The Court recognized that the distinction between direct and indirect injury was *not* the only test of trespass in these words:

“ . . . One of the [not the only] best test by which to distinguish trespass is found in the answer to the question, when was the damage done? . . . ” (35 Wash., p. 6) (quotation from the *Hicks* case)

Later in the opinion the Court made it very clear that it was holding that the three year trespass statute did not apply because (1) plaintiffs' own theory was negligence and (2) because the original construction of the canal by defendant was lawful. The Court said on these points:

“Respondents argue in their brief that appellant's act was a forcible one, in that they assert it let the waters into the canal through the headgate, and that the injury to their lands was the immediate result of such forcible act. *It is asserted that the water was under appellant's absolute control from the time it entered into its canal from the Wenatchee river until it was let out at the end of the lateral. Such is, however, not the case alleged in the complaint. The complaint is based upon negligence in the construction of the canal, and upon its insuf-*

ficiency to carry the surplus water which accumulated, at the time mentioned, by drainage from above. If such were true, it is manifest that the water was not under the immediate and absolute control of appellant, as respondents now argue. The theory of the complaint is that the injury resulted from *negligent construction*, which occurred long before, and whereby appellant failed to properly handle the waste and surplus water. The act was remote from the injury. The latter was purely consequential, and not the direct or immediate result of the former. Moreover, if respondents' present argument were supported by the allegations and theory of the complaint, then, even though appellant had full control of the water, it still follows, from the reasoning in the cases cited above, that it was *not doing a thing unlawful in itself* when it permitted the water to run through its canal; and if, after running through the canal, it was *negligently* permitted to escape, the appellant was liable for consequential damages recoverable at common law in an action on the case only, and not in an action of trespass. We therefore think that, under the *cause of action stated in the complaint*, our statute of limitations barred the action after two years. It follows that the court erred in overruling the demurrer to the complaint." (35 Wash. pp. 8-9, emphasis supplied.)

As noted above, the trial Court, in refusing to apply the three year trespass statute to the cases at bar, relied on the *Weller* and *Riblet* cases in addition to the *Suter* case. Not only was the *Weller* case pleaded in nuisance; there was no discussion in the Court's opinion of either the substantive law of trespass or of the limitations point as to trespass. In the *Riblet* opinion there was clear recognition that appellant's theory below was nuisance. Appellant nevertheless, in a nuisance case, tried to convince the Court that the three year trespass limita-

tion was properly applicable. This the Court quite correctly rejected (at p. 258 of 41 Wn. (2d)).

As we have seen, the *Suter* opinion refused to apply the three year trespass statute because the theory of the complaint was negligence *and* because the original building of the canal was not unlawful in itself. We submit that the theory of the present complaints is trespass and that it is not lawful in Washington or anywhere else to deposit solids on another's real property.

As to the theory of the complaints, Judge Fee ruled in *Arvidson* in 1952, a year and one-half before trial, that the complaint stated a cause of action in trespass. The opinion is reported at 107 F. Supp. 51 and the holding to that effect is in the first paragraph of the opinion. Because the complaint stated a cause of action in trespass, Judge Fee held that the action could not be removed to Oregon. It could not be removed to Oregon because the Oregon Supreme Court had held Oregon Courts had no jurisdiction over foreign trespasses upon real properties. 107 F. Supp. 51, 52.

The trial Judge was of opinion that this ruling was not a ruling on Washington law (I-96). On the contrary, it seems clear to us that it was a ruling on Washington law. The complaint alleged that the Arvidson farms were in Washington and that appellee had deposited solids on them. If that had not been a Washington trespass, Judge Fee would have been free to order the action to Oregon or at least the Oregon cases dealing with foreign trespass would have been inapplicable, and the whole basis of Judge Fee's opinion summarized in the

preceding paragraph rather pointless. Though Judge Fee's opinion probably became the law of the case, all we find it necessary to point out in what follows is that he was right.

The *Suter* case was decided in 1904. In 1909 the Washington Supreme Court not only held that the Washington law of trespass accords with the common law, but defined what it was at common law. In *Welch v. Seattle & Montana R. Co.*, 56 Wash. 97, 105 Pac. 166 at pp. 99-100 of 56 Wash., the following appears:

"It is the established rule of this court that the question of whether an action is an action for trespass upon real property depends upon what was deemed trespass at the common law, and in order to determine that question it is necessary to examine the common law authorities. In 2 Cooley's Blackstone (4th ed.), page 208, the author says that, 'Trespass in its largest and most extensive sense, signifies any transgression or offence against the law of nature, or society, or of the country in which we live; whether it relates to a man's person, or his property.' But that 'in the limited and confined sense in which we are at present to consider it, it signifies no more than an entry on another man's ground without a lawful authority, and doing some damage, however inconsiderable, to his real property.' The essential idea seems to have been the breaking of a close by force, the words of a writ of trespass commanding the defendants to show cause *quare clausum querentis fregit*; and it was frequently called trespass *vi et armis*. So great a regard did the law have for a man's close or premises that it presumed damages would accrue from the breaking into or penetrating such close, even if it was no more than the trampling of the herbage therein. An action set forth such facts as these was an action in trespass, as distinguished from what was designated

an action on the case, where the injury resulting from the action was not caused by direct force, but was consequential or an injury resulting indirectly from the act complained of. Mr. Blackstone, on page 123 of Book 3 (Lewis' ed.), makes a distinction as follows:

“ ‘ And it is a settled distinction, that where an act is done which is in itself an *immediate* injury to another's person or property, there the remedy is usually by an action of trespass *vi et armis*; but where there is no act done, but only a culpable omission, or where the act is not immediately injurious, but only by *consequence* and collaterally, there no action of trespass *vi et armis* will lie, but an action on the special case, as the damages consequent on such omission or act.’ ”

The important principle involved in the foregoing extract is that damages are presumed from the breaking of the close. In other words, if defendant breaks the close, liability is absolute, damage or no damage.

This principle was dicta in the *Welch* case because the Court held there was no physical invasion. 56 Wash. 97, 101, 2. The dicta was applied later, however, in *Gray v. Harris & Son*, 200 Wash. 181, 93 P. (2d) 385. There, on one cause of action, plaintiff had been awarded \$100 because defendant had hauled some timber over an old road on plaintiff's real property. The Washington Supreme Court's views were these:

“(4) Appellant contends that the trial court should in no event have allowed more than nominal damages to respondents on their second cause of action.

“There is no question but that appellant was a trespasser upon respondents' land, after redemption. The testimony shows that it hauled over this land

at least 600,000 board feet of timber, after respondents had redeemed, and before this action was begun, with out respondents' permission, and without any right so to do. However, the testimony also shows that the hauling was upon an old road that had been there for some ten years, and that the only damage was such as might result from the use of this private road. The only testimony bearing upon the damage to the land from such hauling seems to be based upon the claimed resonable value per thousand feet for hauling timber over this road. We are of the opinion that there is no testimony herein which would justify a judgment against appellant on the second cause of action in the sum of one hundred dollars, but a technical trespass having been proven, we think respondents are entitled to nominal damages in the sum of one dollar, on their second cause of action." (200 Wash. 181, 188-9.)

Obviously this extract is susceptible only of the meaning that upon proof that the close was broken the liability is absolute without any proof of actual damages.

*Clark Lloyd Lum. Co. v. Puget Sound & C.R. Co.*, 92 Wash. 601, 159 Pac. 774 also dealt with trespass. There the railroad wanted to lay some track along the lumber company's property and the parties entered into an agreement to that effect. In disregard of the rights conferred, the railroad blasted some stumps and threw some debris into a cove where the lumber company maintained some booms. The question presented was whether those acts constituted a trespass for the purpose of the statute of limitations. The Court held that they did. It said:

" . . . The blasting of the stumps and the waste of the debris over the bank and into the cove was an immediate injury. *The damages which may result*

*do not have to be immediate to sustain an action under Sec. 159. The statute does not concern itself with the moment of time when the damage actually accrues, or the amount of the damage. They may continue and grow in volume. It concerns itself only with the character of the trespass. If a thing lawful to be done results in damage, the case falls under the two-year statute. If the thing done is wrongful in its inception to the extent that it presently invades a property right, the three year statute applies . . .*" (92 Wash. at p. 605)

This extract clearly supports our view that the deposit of solids presently invades a property right whenever the damage was done, and irrespective of the amount of damage.

The common law of trespass has been defined elsewhere exactly the same as it has been defined in Washington. I Restatement of the Law of Torts, Sec. 158 at p. 359 defines trespass at common law as follows:

"One who intentionally and without a consensual or other privilege

(a) Enters land in possession of another or any part thereof or *causes a thing* or third person so to do \* \* \* is liable as a trespasser to the other irrespective of whether harm is thereby caused.  
\* \* \* "

Under the comment on clause (a) at page 362 appears the following:

"*n. Causing Entry of a Thing.* The actor without himself entering the land may invade another's interest in its exclusive possession by throwing, propelling or placing a thing either on or beneath the surface of the land or through the air space above it. Thus, in the absence of the possessor's consent or other privilege so to do, it is an actionable trespass to throw rubbish on another's land, even though he

himself uses it as a dump heap, or to fire projectiles or to fly an advertising kite or balloon through the air above it, even though no harm is done to the land or to the possessor's enjoyment of it. *In order that there may be a trespass under the rule stated in this Section, it is not necessary that the foreign matter should be thrown directly and immediately upon the other's land. It is enough that an act is done which will to a substantial certainty result in the entry of the foreign matter.* Thus, one who close to another's boundary so piles sand that by force of gravity alone it slides down onto his neighbor's land or who so builds an embankment that during ordinary rainfalls the dirt from it is washed upon adjacent lands becomes thereby a trespasser on the other's land." (Emphasis supplied.)

The Oregon Federal Court through Judge Fee has had occasion recently to consider the application of the common law of trespass to a particular fact situation. *Ure v. United States*, 93 F. Supp. 779, aff'd sub nom *White v. U.S.*, (CA9) 193 F. (2d) 505. That case involved one group of plaintiffs who sought to prove liability on the theory of negligence for failure of defendant to deliver irrigation water to their crops and another group which sought to prove strict liability on the theory of trespass when their lands were flooded by the breaking of an irrigation canal. Concerning the failure to deliver water, the Court held that no negligence had been proved. Concerning the flooding cases, the Court held that trespass involving strict liability was involved. The Court did so in the following language:

" . . . When one voluntarily and deliberately does an act upon his own land which results in a physical trespass upon lands in other ownership, the liability is absolute . . . " (p. 787 of 93 F. Supp.)

On May 4, 1950, plaintiffs closed their cases before Judge Fee, sitting in Oregon, in *Kerr, et al.*, and *McCallister, et al., v. Reynolds Metals Company*. These were damage actions against the Troutdale plant. Defendant in that case was represented by the same firm as represents appellee here. Some plaintiffs were residents of *Washington* and some of *Oregon*. Defendant moved for and argued a motion for an involuntary nonsuit (Tr. in *Kerr* and *McCallister*, 838) under R. 41-B, F.R.C.P. The Court denied the motion and said:

"Then I think that there is some evidence in this case from which the Court could deduce or infer very properly that there were particles developed in the pots at Reynolds Metals Company that were transferred physically onto the properties of the plaintiffs. As to whether they caused damage or not would then not be a question, because by mere physical invasion plaintiffs have established their case.

\* \* \* \*

" \* \* \* The Court is of the necessity of giving at least nominal damages for the trespass which I think up to this point has probably been established, and from there on determine how many of these claims are valid." (Tr. in *Kerr* and *McCallister*, 846.)

87 C.J.S., Trespass, Sec. 13, is in accord with the Restatement trespass rule. It reads:

"Every unauthorized entry is a trespass, regardless of the degree of force used, even if no damage is done or the injury is slight and gives rise to a cause of action for nominal damages at least . . . " (Sec. 13(b) pp. 965-6, citing *Welch v. Seattle & Montana R. Co.*, 56 Wash. 97, 105 P. 166, discussed *supra*.)

"Entry by Thing Controlled by Defendant. The entry need not be in person but may be by the projection of force beyond the boundary of the land where the projecting instrument is employed. Thus, the trespass may be committed by casting earth, or other substances, upon another's land . . ." (Sec. 13(c), pp. 966-7, citing *Ure v. United States*, 93 F. Supp. 779, discussed supra).

To the same effect is 52 Am. Jur, Trespass, Sec. 12, page 844:

"At common law every man's land was deemed to be inclosed, so that every unwarrantable entry on such land necessarily carried with it some damage for which the trespasser was liable. Any entry on land in the peaceable possession of another is deemed a trespass, without regard to the amount of force used, and neither the form of the instrumentality by which the close is broken nor the extent of the damages is material. . . ."

The three text writers and Judge Fee are thus in agreement with the Washington cases as to what constitutes trespass at common law. Accordingly, if the evidence showed (Point I above) that appellee deposited solids, there is no question but that trespasses were made out under the law.

### **C. The Washington Limitations Law as to Personality.**

Under Point III(A) above, we pointed out that the trial Court before (I-12, 138) and after (I-97) trial held that the Washington two year statute applied to the personality claims and not the three year statute. The three year statute reads:

"Within three years:

\* \* \*

"2. An action for taking, detaining or injuring personal property, including an action for the specific recovery thereof, or for any other injury to the person or rights of another not hereinafter enumerated; \* \* \*" (R.C.W. 4.16.080(2))

The two year statute (R.C.W. 4.16.130) reads:

"An action for relief not hereinbefore provided for shall be commenced within two years after the cause of action shall have accrued."

In its written decision the trial Court said it was "fully satisfied" (I-97) the latter of these statutes applied. That conclusion was "inescapable" to the trial Court (I-97), under six cases which it cited, but did not in any way analyze. The six cases are: *Northern Grain & Warehouse Co. v. Holst*, 95 Wash. 312, 163 Pac. 775; *Clark Lloyd Lbr. Co. v. Puget Sound & Cascade Ry. Co.*, 92 Wash. 601, 159 Pac. 774; *Irwin v. J. K. Lumber Co.*, 119 Wash. 158, 205 Pac. 424; *Constable v. John P. Duke*, 144 Wash. 263, 257 Pac. 637; *Noble v. Martin*, 191 Wash. 38, 70 P. (2d) 1064 and *Luellen v. Aberdeen*, 20 Wn. (2d) 594, 148 P. (2d) 849.

We shall analyze the cases cited by the Court. However, it is probably worth pointing out first that the Washington limitations statutes are unique at least in one respect. Most codes have a residuary or "catch-all" statute providing a period of limitations for actions not otherwise dealt with. The Washington two year statute above quoted is such a statute. However, the last clause of the section of the Washington three year statute dealing with personalty above quoted, is also a "catch-all".

The Washington three year statute has seven subdivisions. As we have seen (Point III(B)), the first one deals only with waste or trespass upon real property. The first two clauses of the second deal with any injury to personal property; and the last clause deals with “. . . any other injury to the person or rights of another not hereinafter enumerated, . . .” The remaining five subdivisions deal with specific types of injuries to “the person or rights”. The Washington Legislature should have foreseen that when a “person or rights” case arose which was not mentioned in one of the five subdivisions of the three year statute after R.C.W. 4.16.080(2), a contention would be made that the last clause of 4.16.080(2) applied instead of the regular “catch-all” two year statute (R.C.W. 4.16.130). Indeed, unless some limiting language be read into the last clause of R.C.W. 4.16.080(2), it is impossible to read it with R.C.W. 4.16.130. Such a case did come along in *Northern Grain & Warehouse Co. v. Holst*, 95 Wash. 312, 163 Pac. 775. This is the first case cited by the trial Court (I-98) in support of its conclusion that the two year statute applied to the cases at bar. In that case *Holst*, a grain inspector, neglected to get a bond from a warehouseman so that Northern Grain could not collect from the warehouse man when he defaulted. The Washington Supreme Court solved the problem created by the Legislature by first deciding that the claim against *Holst* was *indirect*, the direct fault being that of the warehouseman in defaulting. Then the Court went on to hold that where a claim is made of injury to “the person or rights” *not* covered by the five subdivisions of R.C.W. 4.16.080 after

the second subdivision, the injury must be direct to fall within the last clause of 4.16.080(2); if indirect, the claim was limited by the two year provision of 4.16.130. Only that way, said the Court, could the two statutes be read together (95 Wash. 312, 315).

An example of a direct injury within the meaning of the last clause of 4.16.080(2) is *Luellen v. Aberdeen*, 20 Wn. (2d) 594, 148 P. (2d) 849, cited by the trial Court in support of the ruling below. There it was held that a police officer in a mandamus proceeding had suffered a "direct" invasion, so he got the benefit of the last clause.

We do not think either *Holst* or *Luellen* applies to the cases at bar. We are not claiming an injury to "the person or rights" not enumerated in any of the five subdivisions of 4.16.080 after subdivision 2 as in those cases. Instead, we claim that the *first* clause of 4.16.080(2) applies here, because of injury to "personal property". It could hardly be more in point.

Probably the trial Court applied 4.16.130 to the personalty claims at bar because, having decided that no trespass upon real property was made out because the injury, if any, was indirect rather than direct, it thought the same distinction applied to personalty. We are not sure of this for the Court gave no reason for applying 4.16.130 to personalty. In any event, we think nothing could be clearer than appellants claimed injury to their cattle, i.e., to their personal properties. Whether that injury be direct or indirect makes no difference because the first clause of 4.16.080(2) makes no such distinction. The distinction is a Court created one, but it

was never applied by the Washington Supreme Court to personal property; that is to the first clause of 4.16.080 (2). It was created out of necessity (the *Holst* case) and was applied *only* to the last clause of 4.16.080(2); that is, where the "person or rights" are involved and the claim does *not* fall within one of the five subdivisions of 4.16.080 after 4.16.080(2).

*Irwin v. J. K. Lumber Co.*, 119 Wash. 158, 205 Pac. 424, cited by the trial Court, very clearly supports appellants' position here. That case involved an infringement of fishing rights. The Washington Supreme Court held the rights to be personal property and without further ado applied the predecessor of 4.16.080(2).

The trial Court also cited *Clark Lloyd Lumber Co. v. Puget Sound & Cascade Ry. Co.*, 92 Wash. 601, 159 Pac. 774; *Constable v. John P. Duke*, 144 Wash. 263, 257 Pac. 637, and *Noble v. Martin*, 191 Wash. 38, 70 P. (2d) 1064, in support of its two year personalty ruling. The *Clark Lloyd Lumber Co.* case deals with the definition of trespass upon real property and the applicable period of limitations. We quoted from the opinion in that case in Point III(B) above. It has nothing to do with the law of limitations as to personalty. The *Constable* and *Noble* cases are "person or rights" cases. Like the *Holst* case, they are claims not falling within the last five subdivisions of 4.16.080(2). Like *Holst* they involve derelictions of duty and hence indirect injuries. Both do no more than follow the *Holst* case. We have already shown why we think *Holst* does not apply here.

## CONCLUSION

The Court should hold on the facts that: (1) solids were within the period of limitations held applicable and up to the time of trial continuously and repeatedly deposited by appellee on appellant's real properties in both cases; and (2) appellee injured appellants' cattle substantially in both cases within the same periods. Having so held on the facts, the Court should hold on the law that (1) the deposit of solids in Washington constitutes a trespass and that (2) the real property and personal property claims are limited by the three year, and not the two year, Washington statute of limitations. The cases should then be remanded with instructions to the trial Court to apply the Washington three year statute of limitations to both types of claims taking into consideration whatever further proof may be in its opinion required. Upon remand, the trial Court should also be instructed to give further consideration to its Conclusion in both cases refusing judgments restraining or controlling appellee's further operations in the light of this Court's holding that a trespass was made out in both cases.

Respectfully submitted,

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